RAILWAY MODELLER

For The Average Enthusiast

Building a "Bulldog" in "00" gauge

VOL 8 1957 2/- JANUARY

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Joiners, pkt. **1/11**		Spikes **2/5**
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Super point levers, each		**2/5**

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Double junction	„ **36/4**	„ **39/11**
Terminal rail	„ **1/11**	„ **2/1**

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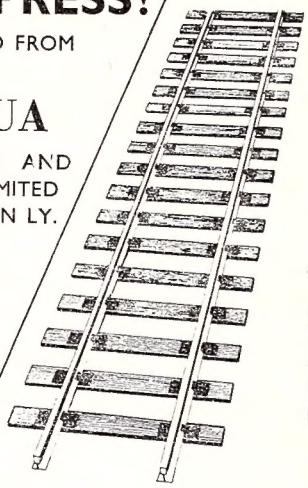

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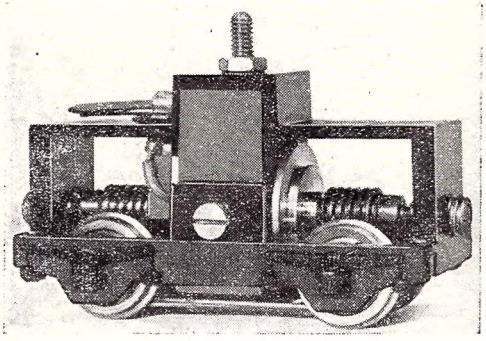

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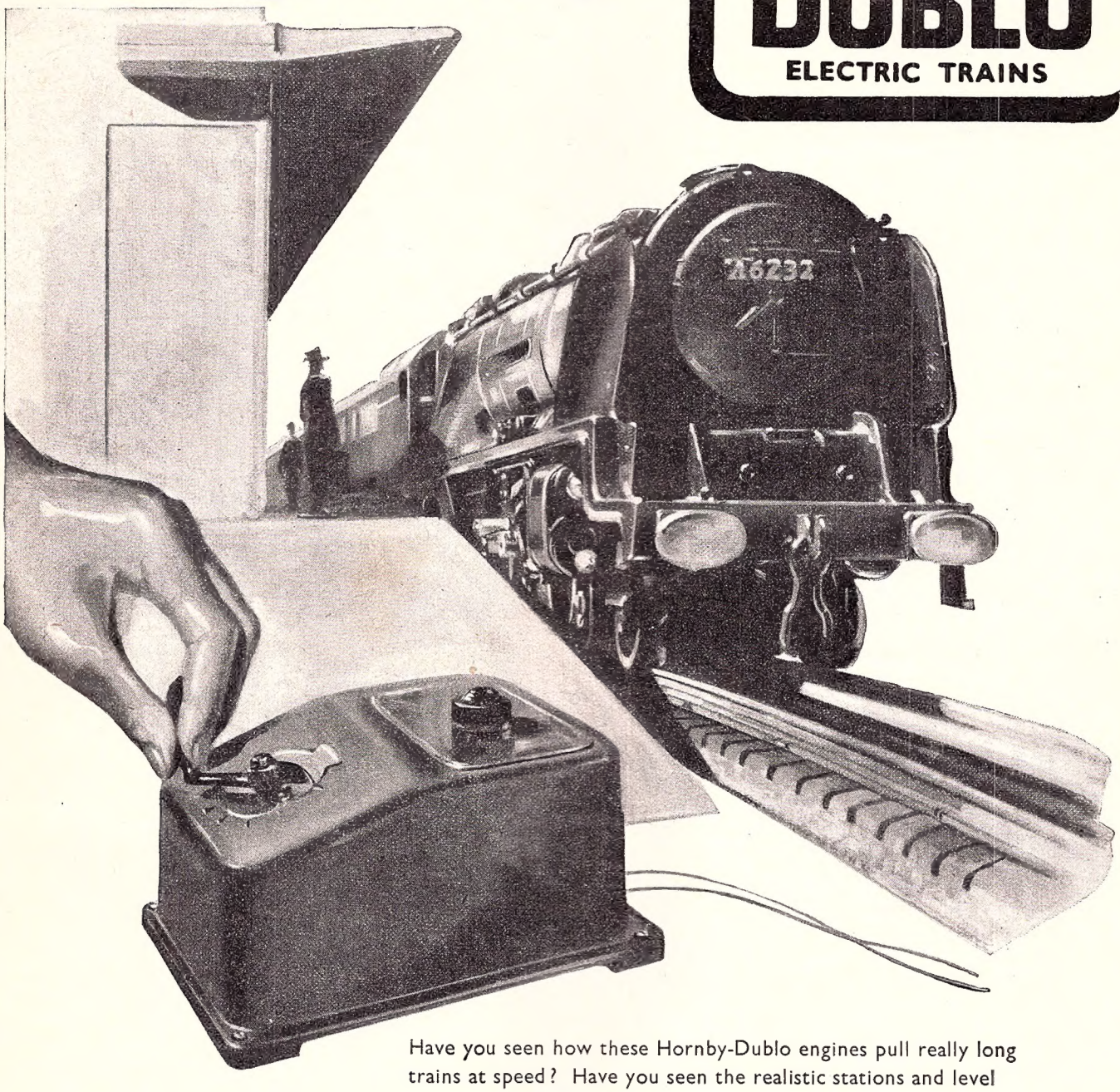

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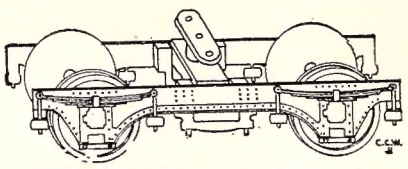

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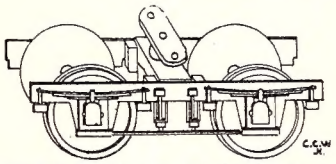

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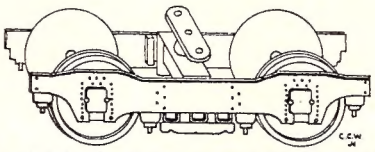

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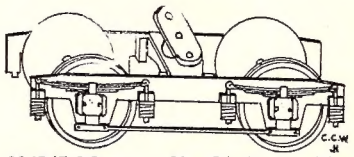

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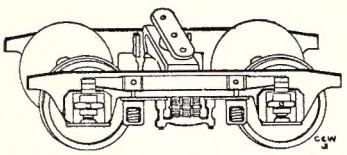

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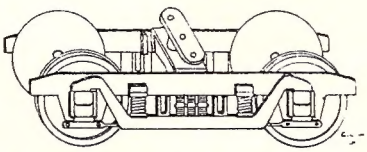

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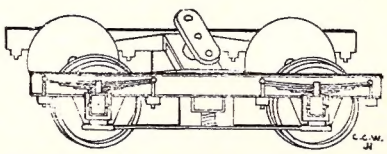

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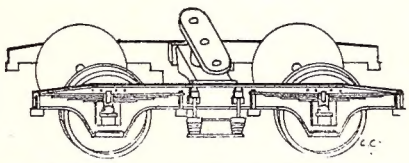

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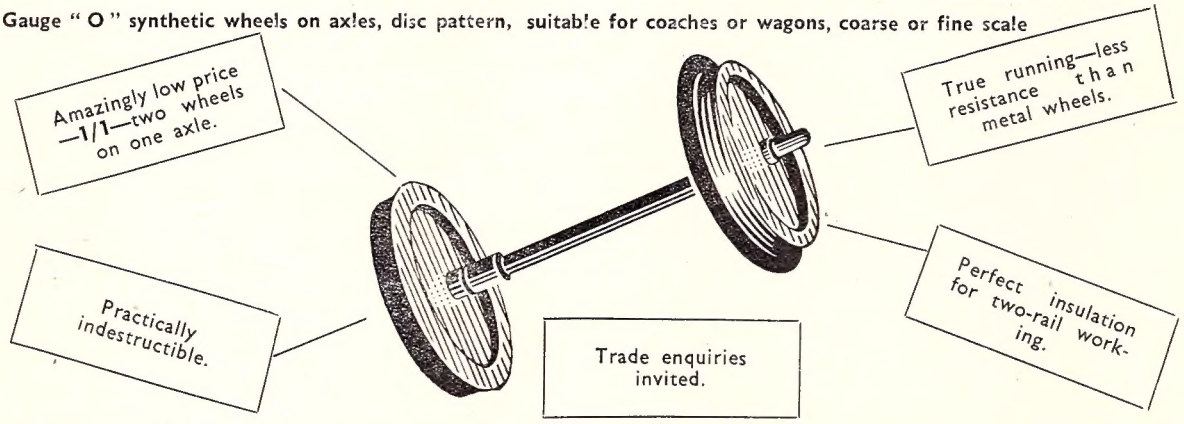
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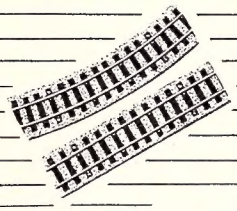
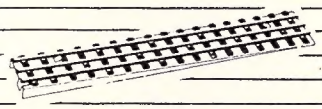
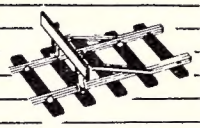

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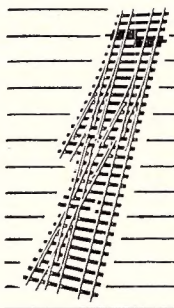
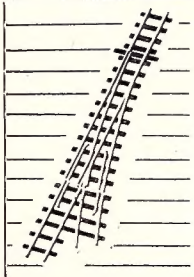


Other items from the Wrenn range include :
Universal Double Junction, Universal Straight Points, Universal Switch Crossings, Universal Curved Points, Universal Crossover, Unbreakable Trees, Terminal Rails, Ballast Strip, Adaptor Ramps, Point Levers, Fish Plates, Track Screws, Buffer Stops.



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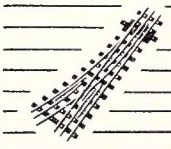

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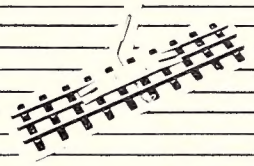

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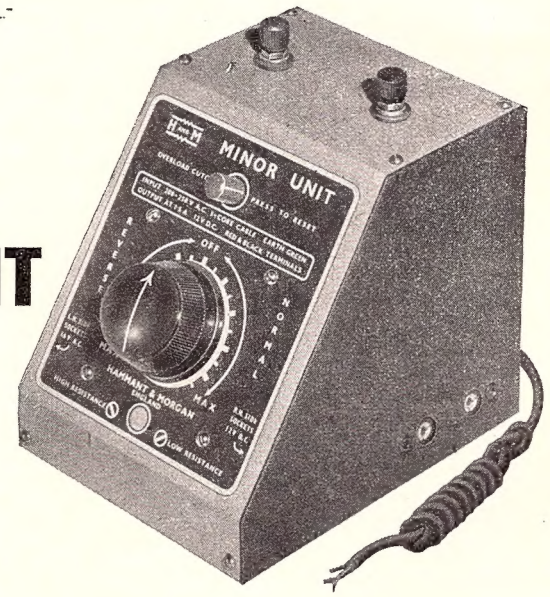

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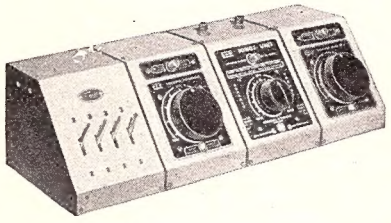

The ingenious design of the "Safety" Minor Unit enables you to add to your control panel as you expand. The illustration shows how, by using the "Minor" as a base, the extra controls can be coupled to form a neat compact panel. From left to right: Flash-switch Unit for Solenoids; R.C.I. Rectifier/Controller; "Safety" Minor, and Multipack Controller.

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The Lobby

IT is with considerable pride that we present this, the new large-sized RAILWAY MODELLER, the culmination of many months of careful planning. That we have had to make an increase in price is, of course, unfortunate, but faced with ever-rising production costs, which could no longer be absorbed, we decided in charging more to take the opportunity of giving even better value. Our new size provides a page no less than one-third larger than before, a page with proportions more suited to the subject.

For example, the new larger format enables us to print bigger pictures, showing more detail, while the advantage of three *wide* columns when dealing with sketches and illustrations will be apparent from the "Do It Yourself" articles this month. But perhaps the biggest gain of all comes in the reproduction of scale drawings, for not only can we include all but the largest of locomotives, *plus their tenders,* in 4mm. scale on one page, but we can at the same time accommodate two such drawings on the one page without cramping. *Thus it will be readily seen that in effect we are and shall be giving nearly half as much material again in each issue.*

The drawings of B.R. standard locomotives on page 12 are but the first of the complete series which we are preparing from official information in response to many requests. We shall also be publishing details of the new diesel stock, but at the same time shall not forget those readers whose interests lie in earlier times, for we have a further series of drawings from the pen of Sir Eric Hutchison in hand for publication in the near future. All these drawings will be reproduced to 4mm. scale, but can, of course, be used for the construction of models to other scales, for example "O" and "TT." We also know of many new developments which will appear in the near future and we will, as always, be giving you this information at the appropriate time. We propose to utilize much of our increased space for additional "Do It Yourself" articles: contributions of this nature are always welcome.

However, the most important thing is that the RAILWAY MODELLER should give you what you require. We welcome your letters of criticism at any time, but shall especially look forward to your opinions of the bigger RAILWAY MODELLER.

Lastly, an urgent reminder. The RAILWAY MODELLER Cup competition closes on January 12. Have you sent in your entry? If not, do it now!

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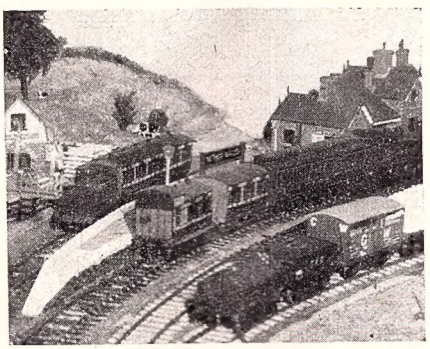

COVER PICTURE

Nether Wallop station on Graham P. Overton's West of England Railway, our Railway of the Month.

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Railway of the Month

WEST OF ENGLAND RAILWAY

by Graham P. Overton

The West of England Railway is a highly unconventional "EM" gauge line which breaks most of the rules successfully. Free-lance in character, with rolling stock which can only be described as heterogeneous, it has, nevertheless, given its owner and his friends many hours of pleasure.

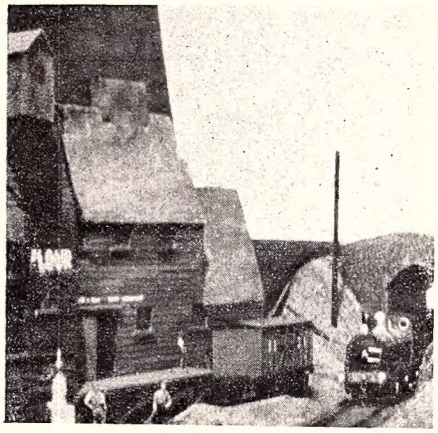
THE West of England Railway is that rather uncommon thing, an "EM" gauge free-lance line. Previously I had modelled the G.W.R. on and off since I was a schoolboy, but found that no matter how well a model was constructed someone was bound to say it was spoilt by being incorrect in some minor detail.

The W.E.R. is 18mm. coarse standard. This gauge was chosen in preference to ordinary "OO" because I feel that it gives models a much more slick look. In 16.5mm. I find a definite tendency for the rolling stock to appear narrow gauge when viewed from the front, and as I prefer point-to-point layouts an end view is inevitable.

The layout was built and in running order about three months after work began, but the centre layout was not new, as some of the baseboard framing as well as Bunglewick station was part of the old G.W.R. line. Construction began a few weeks after I was married, in April 1955. In many cases matrimony ends all hopes of modelling, but I am pleased to say that in my case this was not so, for my wife not only allowed the railway to be built in the living room, but granted a permanent site.

The baseboards were of two types. One section, along the longest wall of the room, was built on bookshelves, simply constructed of 9in. x ¾in. deal boards which were half-cut at the joints. All the remaining baseboards were made out of 2in. x ½in. hardwood frames which were covered with insulation softboard. The bookshelf tops were also covered in softboard, which in my opinion is by far the most satisfactory surface upon which to lay track, as the soft texture of the board gives very silent running and the material can be worked very easily. Care should be exercised in choosing the right type of insulation board, as there is a vegetable fibre on the market which is nowhere near so good, the most suited for model work being a wood fibre board which can usually be bought at good builders' merchants. All the baseboard edging and the bookshelves were covered with imitation wood paper; this useful material can be bought to match the furniture, and not only enables one to produce a pleasing decor but serves to hide any badly finished joints.

2-4-0 No. 1 passing Jones's flour mill (photo, John Slater).



Now to the railway itself. The line has its headquarters at Nether Wallop, which is built in the corner beside the fireplace; this meant that the station platforms had to be built on a curve. All the usual branch line facilities are to be found here, and in spite of the very cramped site there is quite a lot of siding space, which makes operation easy.

Leaving the station, the line passes under a skew bridge on which a taxi has been waiting for a "fare" for best part of a year (everybody must be going on by train.) On our right as we emerge from the bridge is Jones's flour mill, which is served by a siding of its own. The siding point is protected by a frame-type point indicator, an ancient form of signal which has long since ceased to be used on the prototype, but remains in vogue on the W.E.R. The mill itself is a low-relief structure one inch deep, and is constructed from cardboard with individual planks cut from thin postcard and individually glued on. The roof is made from strips of paper overlapped to represent tiles.

After crossing the mill stream, the line runs across a deep ravine on Torbridge viaduct. This timber viaduct was made from two Ratio kits, one of the Brunel fan type and the other of the pile design, giving a total of thirty inches. The second span from the Bunglewick end was built double length to clear the Torbridge road, which runs along the side of the valley. Painting the structure was quite a long job, but was simplified by the use of a Celspray.

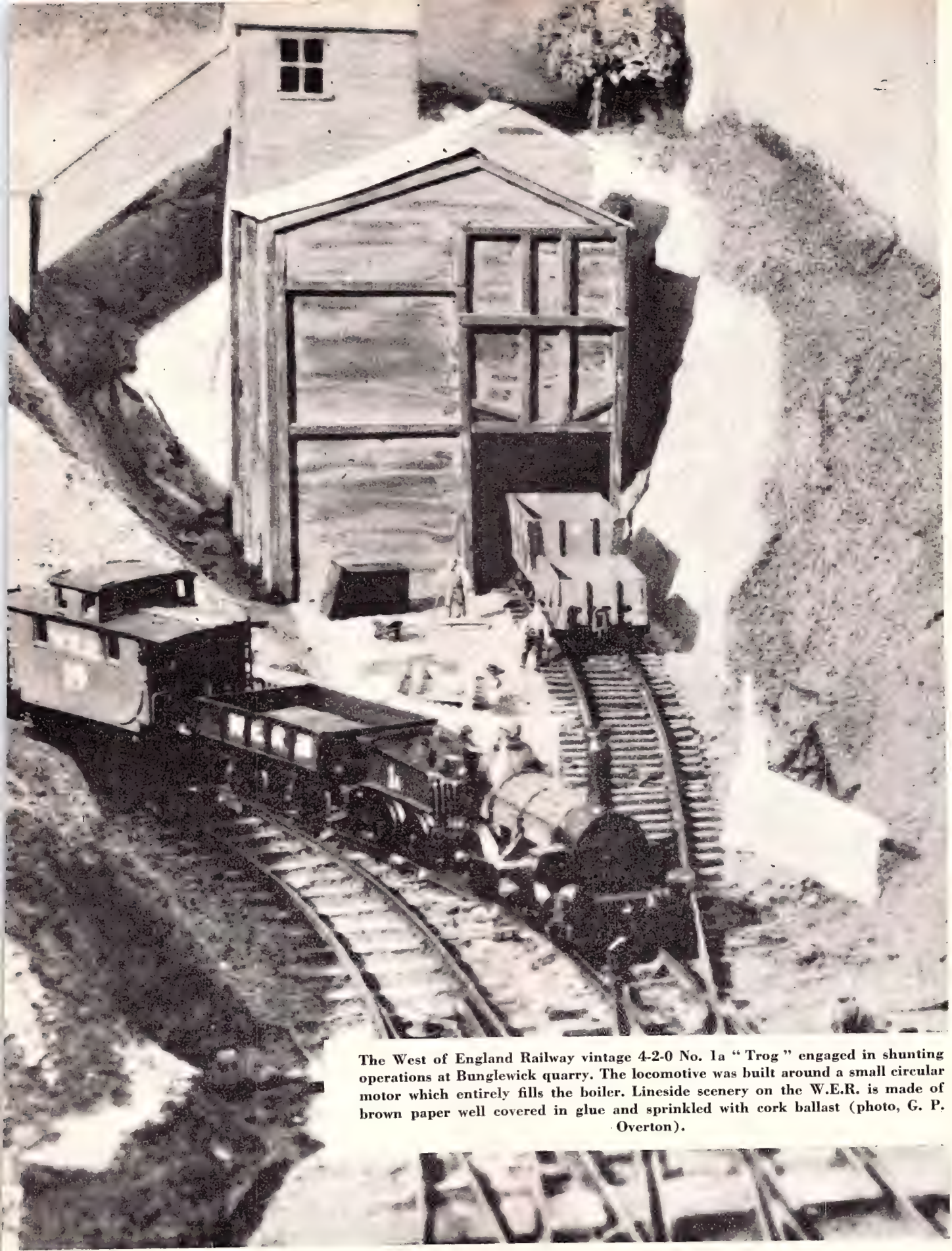
Beyond the viaduct the line divides, one line descending at 1 in 20 to Bunglewick, the other serving the locomotive depot. The loco shed is of the roundhouse arrangement and has a capacity of seven locos.

On descending to Bunglewick the line traverses some rather bad curves and up trains often require a banker. Banking is not a usual practice on a model railway, but it works very well in this case. Halfway up the bank is the section break between Nether Wallop and Bunglewick controllers. The trains start from Bunglewick with both locomotives on the same controller, and as soon as the train locomotive crosses into the Nether Wallop section they are under separate control. The banking locomotive is stopped short of the rail break and can then be returned ready for the next train.

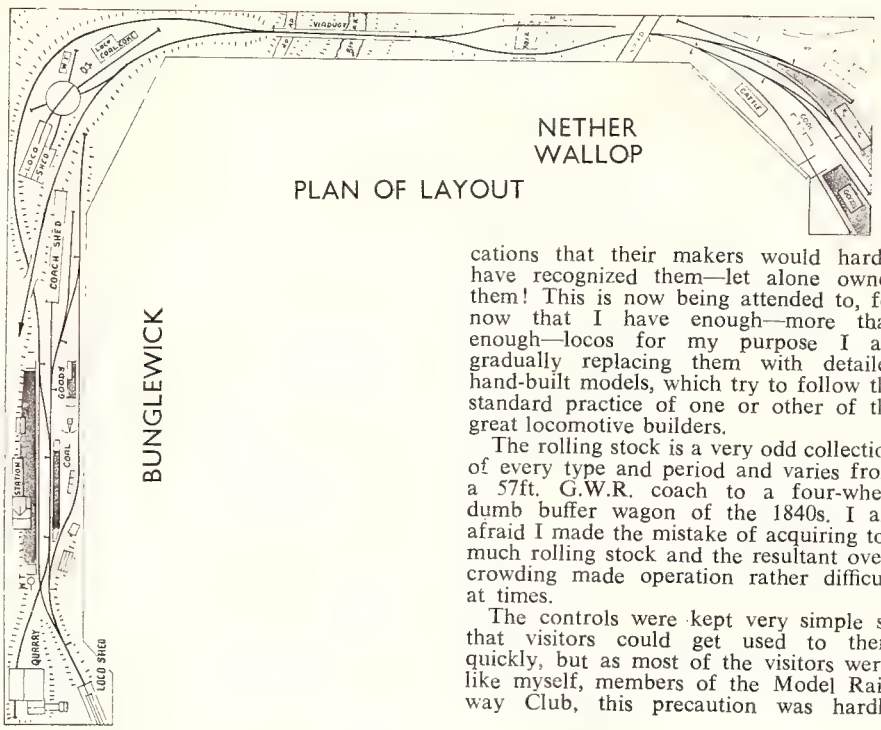
Bunglewick has a very odd track layout to say the least, which, like Topsy, "just growed." It was as a result a complete headache to operate, and this, combined with the fact that the grade happens to run that way, made it a very congested place indeed, especially in the hands of an unskilled operator. To add to the difficulties already mentioned, the track here was none too good. This was mainly due to the fact that it was of soldered construction and my early work to boot. Moreover, sundry alterations did not help matters! I now use flat-bottom track exclusively, for I find it a good deal easier to lay spiked track accurately. I think I have used most types of track at different times—and what is worse, several types at once! I found no difficulty in joining the flat-bottom rail to the bullhead rail; flat-bottom rail joiners do the trick provided they are soldered afterwards to the bullhead rail.

The loco stud is a very mixed bag, having at one time everything from a converted Hornby tank to a Wm. Norris 4-2-0 of 1838 vintage. The Norris was made from photos in the *Practical Mechanics Railroad Album* and has a small motor in the boiler—it comprises the major portion of the boiler in fact! It had, of course, to be made a little oversize, but even so the tap of the boiler is only about one inch above rail level. The rest of the locos all had commercial mechanisms, which were altered to the wider gauge simply by using "EM" Romford axles and plenty of Peco washers. On new locos it is, of course, possible to use wider frames, which enables the motor to fit between them and thus saves the unsightly cutaway which has to be used in 16.5 gauge.

As with most modellers, the stock began with converted proprietary locos, which, as time went on, received so many modifi-



The West of England Railway vintage 4-2-0 No. 1a " Trog " engaged in shunting operations at Bunglewick quarry. The locomotive was built around a small circular motor which entirely fills the boiler. Lineside scenery on the W.E.R. is made of brown paper well covered in glue and sprinkled with cork ballast (photo, G. P. Overton).



PLAN OF LAYOUT

cations that their makers would hardly have recognized them—let alone owned them! This is now being attended to, for now that I have enough—more than enough—locos for my purpose I am gradually replacing them with detailed hand-built models, which try to follow the standard practice of one or other of the great locomotive builders.

The rolling stock is a very odd collection of every type and period and varies from a 57ft. G.W.R. coach to a four-wheel dumb buffer wagon of the 1840s. I am afraid I made the mistake of acquiring too much rolling stock and the resultant overcrowding made operation rather difficult at times.

The controls were kept very simple so that visitors could get used to them quickly, but as most of the visitors were, like myself, members of the Model Railway Club, this precaution was hardly necessary. The line is worked by two controllers which feed the master panel at Nether Wallop, which in turn feed each section of track. Either controller can be switched into any of the track sections on the cab control principle.

Latterly block bells have been used for all train movements, and as only one electric bell was installed an old tin banged with a screwdriver serves for the other. This bell bashing is the only thing that my wife has complained about, which is hardly surprising.

Thanks are due not only to my good wife but also to my close friends for the help and inspiration which they gave me, without which the railway would never have been possible.

Since the foregoing was written the entire W.E.R. has moved with its owner to the West Country—and thus is running in the "land of its birth." This wholesale upheaval has enabled me to improve the line out of all recognition—the poorer sections of the old layout, including the whole of Bunglewick station, being either scrapped or passed on to friends whose need, presumably, was greater than mine. The line was dismantled exactly one year after construction began, and this proves that it is possible to get a reasonably elaborate layout into working order comparatively quickly.

Left : Railmotor approaching Torbridge viaduct. Note frame-type point indicator in centre background.

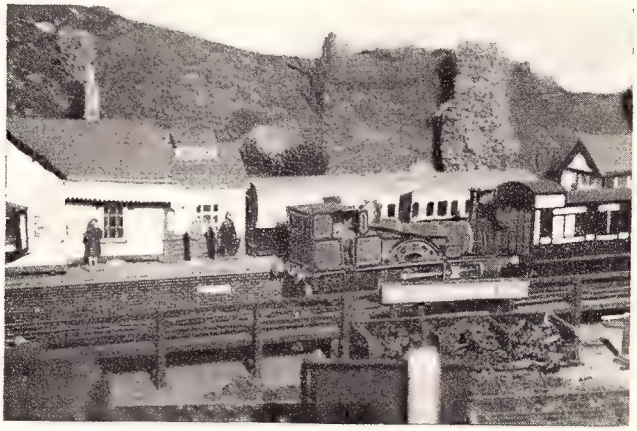
(All five photographs by C. J. Freezer.)

Top right : 2-2-2WT (alleged Beattie design) No. 3 arriving at Bunglewick.

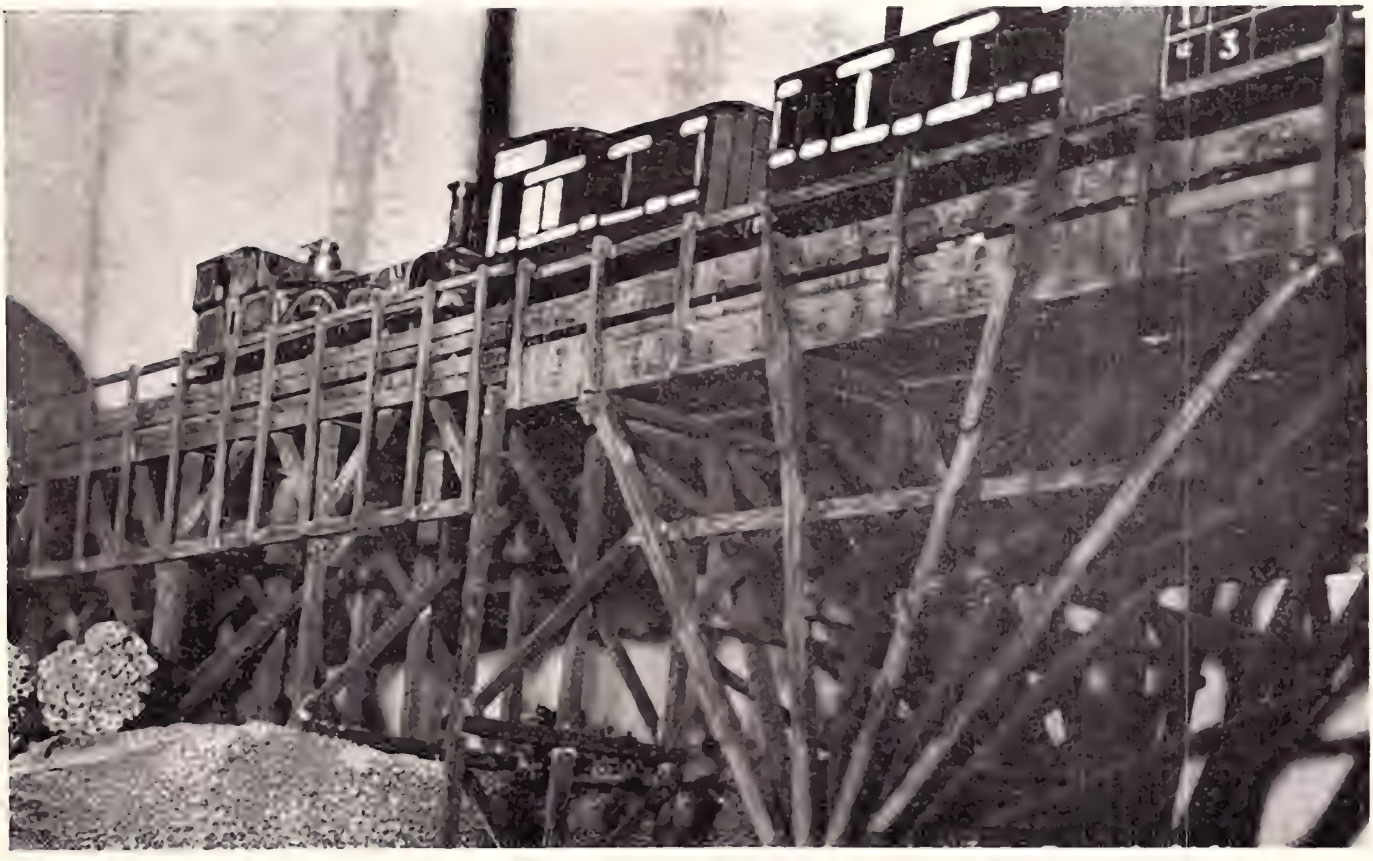
Bottom right : the author operating Bunglewick. Note the air of concentration caused by the unconventional layout.

Facing page, top : No. 3 passing Nether Wallop home signal. Note primitive culvert on the mill siding.

Facing page, bottom : Close-up view of Torbridge viaduct.



JONES FLOUR



THE STORY OF TWO "BULLDOGS"

by A. S. Taylor

Drawings by Eric Longbottom

Being the detailed description of the construction of a super-detailed prizewinning pair of 4mm. scale models.

EVER since I began modelling some twenty years ago it had been my intention to build a G.W.R. "Bulldog" in 4mm. scale, for it is, I think, a most distinctive engine, serving also as a reminder of the smaller locomotive era. In 1954, while living in Bournemouth, I found that a friend and fellow modeller, Eric Longbottom, was of a like mind, and we accordingly decided jointly to undertake the construction of a pair of "Bulldogs," making these as detailed as possible. This had the great advantage that every component could be formed in duplicate, while each problem overcome applied equally to both models.

I think perhaps it would be as well to deal with the actual construction under headings relating to the main items.

MARKING OUT

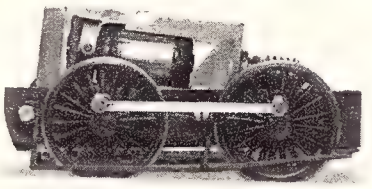
This is quite obviously a task of first importance and was greatly simplified by the use of engineer's marking blue. The liquid is simply brushed on to the surface of the metal to be employed and left to dry and harden off. Thereafter all lines drawn with a light touch of the scriber show up with the clarity of a blueprint, and there is no need whatsoever for the metal beneath to be in any way scored. Removal of the blue is simplicity itself—simply wipe it off with a rag soaked in methylated spirit.

THE MECHANISM

In a loco of this nature it is scarcely feasible to make the usual chassis with the bogie attached, and we therefore decided on a separate mechanism, leaving the bogie as an item on its own. There is not a great deal of room for the motor in a "Bulldog" superstructure, particularly if space is to be left for weighting, and I think that another time I should be tempted to employ tender drive. However, it was eventually resolved that a small "K" motor would be the most suitable, as this allowed for daylight under the boiler without intrusion into the already rather shallow cab.

The provision of outside cranks precluded the possibility of using standard wheels and axles*, and in consequence we fell back on axles of our own design,

* Special axles are now available (Ed., R.M.).



specially made to facilitate crank setting. They consisted of a length of 5/32in. mild steel turned to the shape shown. One end of each axle was drilled in the lathe for about half its length, using a 1/16in. drill, and a slight taper was left at the extremity of each wheel shoulder to facilitate the entry of the wheel itself.

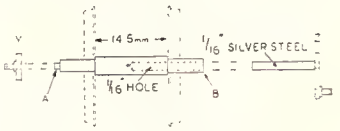


Fig. 1. Axles and cranks.

The axles were now inserted into their bearing holes in the main frame, which calls for no special comment other than to say that each spacer was "miked" to within .0005in. to keep the alignment as accurate as possible. Phosphor-bronze bushes were employed and an ebonite block was included to support the collector assembly, fixed with 10 B.A. countersunk screws through the sideframes.

With the axles in position, the wheels were forced on to the two taper shoulders, using two jigs in the machine vice.

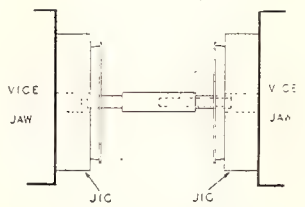


Fig. 2. The wheel jigs.

The crank Y, with crank pin already inserted, was now firmly soldered on to the stub A (Fig. 1), being aligned with the crank boss on the wheel behind it. The opposing crank Z had previously been force fitted on to a short length of 1/16in. silver steel, and this was now pushed into the 1/16in. hole in the axle. It will be seen that, while Y is a fixture, Z can be rotated in its sleeve, but is always tight enough to retain its position during crank setting. Once this had been accomplished, the back of crank Z was sweated to the main axle at point B, using Fryolux solder paint.

Experiments with the force fitting of die-cast wheels proved that these were liable to buckle under the pressure, and in consequence we used Reidpath brass wheels opened out to fit on to the shoulders of the axles and hub-insulated on one side of the mechanism. This insulation was carried out by turning small "top hat" shaped bushes from a substance rejoicing in the name of cast phenolic resin. Fortunately, we did remember to place the gear wheel on its appropriate axle, in this case the rear one, before the forcing operations took place!

THE CRANKS

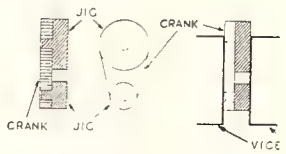
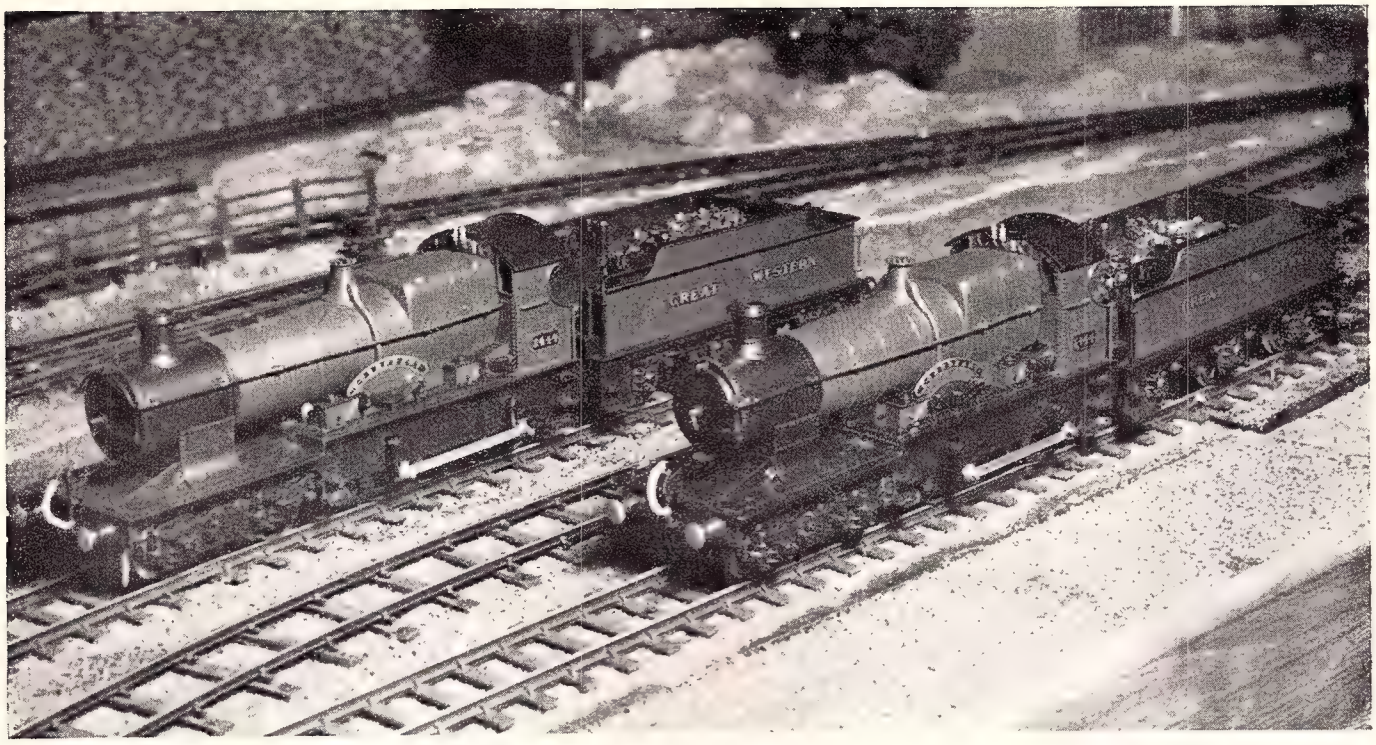


Fig. 3. Filing jigs for cranks.

One crank was first marked out on a strip of 1/16in. nickel silver, and the holes for the axle and the crank-pin were drilled to exact size, each being a light force fit. The crank was then cut out, roughly trimmed to shape with a file, and tacked with the soldering iron to the same nickel-silver strip. The drilling operation was repeated and the second crank cut out, using the first as a guide. Similar treatment was applied to numbers three and four, and finally the four cranks were separated with a razor blade.

In order to ensure that these were of identical shape, two small filing jigs were constructed by turning two short lengths



of silver steel to the radii of the top and bottom of the finished crank respectively. A stub of length equal to the thickness of one crank was turned on the end of each, in the case of the larger jig being a push fit into the axle hole, while for the smaller one the stub was a similar fit into the crankpin hole.

The jigs were hardened by heating to cherry red in the Bunsen burner and then plunged into cold water.

They were next inserted into their individual holes in each crank in turn, and the whole assembly was clamped in the machine vice. By using the hardened edges of the silver-steel jigs as a guide for the file, it was possible to trim all four cranks to shape, and to ensure their similarity.

COUPLING RODS AND CRANK-PINS

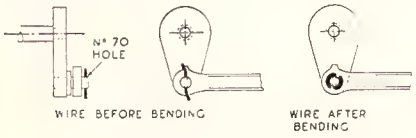
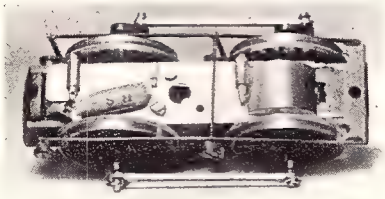


Fig. 4. Crank-pins.

The rods were cut from nickel-silver sheet of appropriate thickness, marked out and fluted in the lathe. They were held in a machine vice attached to a vertical slide, the grooving being accomplished with a .039 slitting saw.

The crank-pins were turned from mild steel and force fitted into the cranks, thereafter being centre-punched from the rear. The protruding portions to take the rods were turned to No. 52 drill size and provided with a No. 70 drill hole at their extremity, the hole being at 90° to their length. Once the rods had been put in position, a short length of No. 70 wire was inserted into the hole in the end of each pin and bent into an "S" shape, thus retaining the rod neatly and providing an easy means of detachment.

THE COLLECTORS



We decided to collect from the backs of the wheels by means of nickel-silver spring-loaded plungers running in small copper tubes and equalized through the action of a central spring. This spring was quite simply formed from a length of 33 s.w.g. model aircraft control wire, and was loosely anchored in the centre to a plate of nickel silver which formed the base of the whole collector unit. The photograph shows the complete assembly. The spring wire passes through the ends of the two plungers, which are drilled (in a similar way to the crank-pins) with a No. 70 hole. The wire passing through these holes is bent over to retain it in position, but it must be so bent as to allow complete freedom of movement to the plungers in their sockets.

BRAKE GEAR

This had to be made detachable in order to allow withdrawal of the mechanism, and was arranged as one unit attached to the sideframes by 10 B.A. bolts passing through small spacing tubes. These kept the gear at the required distance from the mechanism.

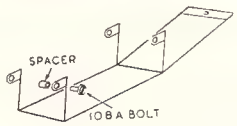
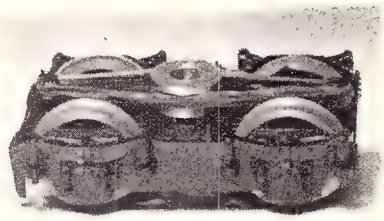


Fig. 5. The brake gear.

THE BOGIE



Here again was a unit with outside framing, and the chief difficulty lay in preventing shorting between the footplate runners and the bogie itself. It seemed, therefore, that to achieve this the bogie must perform a somewhat similar function to its full-scale counterpart, and be so sprung as to allow the minimum side play, thus having the additional advantage of guiding the loco into the curve.

The bogie was therefore made in two parts: (a) an inner frame carrying the wheels; (b) an outer portion with dummy axle-boxes and the relevant bogie details upon which the actual springing lay; the two portions screwing together.

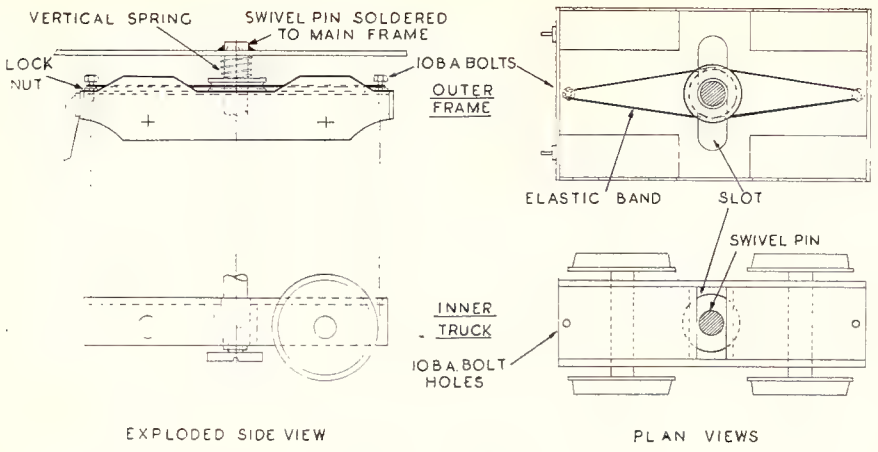


Fig. 6. The bogie.

It will be seen that two 10 B.A. bolts performed this latter function. Both were locknutted and left protruding to take an elastic band, which took care of the side springing.

The centre of the outer frame has the usual slot to accommodate the swivel pin, the pin being attached to the footplate of the loco itself. Placed over this slot, and a loose fit on to the swivel pin, is a turning similar to a small-grooved pulley. The groove houses the elastic band and keeps it under tension, while a small vertical spring bears on the top of the collar. The top end of the spring rests on the underside of the footplate and the whole bogie is kept in position by a specially turned large-headed 8 B.A. bolt, screwing up through the bogie into the swivel pin. Thus both vertical and lateral springing was achieved.

THE LOCOMOTIVE BODY

(a) The Plan

In our preliminary survey we decided to construct this as two separate and detachable units, comprising: (1) the footplate with splashers, springs, saddle, sideframes and the cab ; (2) the smokebox, boiler and firebox, and all relevant details.

These units were to be joined by a single countersunk 10 B.A. screw running up from under the footplate and screwing into a small $\frac{1}{8}$in. brass plate soldered to the underside of the smokebox but hidden within the confines of the saddle. The firebox is tucked firmly under the plate holding the whistles.

The advantages of two-piece assembly are twofold: clearing up is greatly facilitated, and spray painting, with its attendant masking, is rendered much simpler.

The body was fully riveted, and the acquisition of a Beeson riveter enabled this to be carried into effect very successfully. This tool is quite invaluable to the modeller, for besides providing a range of rivet spacings and sizes it ensures that the rows are in line and evenly produced. Nothing looks worse than a drunken row of rivets.

(b) The Footplate

The first items to be constructed here were the sideframes, which embody a considerable amount of rivet work and also carry the steps. One frame was marked out, cut to shape and roughly trimmed with a file. It was then tacked to a similar sheet of metal (following the same procedure as used for the cranks) and the second frame cut out. The two frames were now filed up to their correct dimensions while still tacked together, and then separated.

The frames were next marked for riveting. This had, in the main, to be an individual job, since they occur at irregular intervals, and no standard spacing could be employed.

The two sections of the footplate itself, along with buffer and drag beams, were now constructed, being riveted and drilled as and where required. The main footplate was now marked out to allow for penetration of the mechanism, but no metal was removed at this stage. It is far better to solder on the sideframes and buffer beams first, for this gives you a fully stiffened assembly to cut from and to file up squarely.

(c) The Smokebox Saddle

This was built up from sparate components, each made by the "pairs" method where applicable, and riveted where necessary. Lead was inserted inside the saddle and the bogie swivel pin firmly attached, provision also being made for a 10 B.A. screw to go through and hold down the boiler unit in the manner previously described.

(d) The Cab

Two identical sides were formed, and beading was sweated to the lookout portion, allowing a small extension on the bottom edge to accommodate the vertical handrail. Riveting came next, and the horizontal handrails and the number plates were now added. In this way it was possible thoroughly to clean up the two

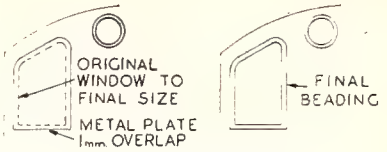


Fig. 7. Cab spectacle plates.

sides at each stage, instead of trying to tack this with the cab fully assembled.

The spectacle plate was now cut out and two small "top hat" shaped turnings were made for the small lookout openings over the firebox. These were pushed into previously drilled holes, sweated in from behind and cleaned off flat at the rear. To bead the edge windows, small plates of nickel silver of similar shape to these windows, but with an overall increase in dimension of about 1mm., were prepared and filed to their exact shape around the edges. These were then sweated over the previously cut out windows in the spectacle plate, leaving about 1mm. of bearing surface each side. The original sized windows were now re-cut in the extra plate, leaving a bead already sweated to the window, and the inside edge was filed to shape.

Slots were cut in the spectacle plate to allow clearance for the wheels, which go right through into the cab and are covered by the rear splashers. The cab floor was next formed, taking care that this was exactly the same width as the spectacle plate, and a dummy firebox extension was provided and attached to the rear of the spectacle plate. Lead was fitted in behind this and also under the cab floor, allowance being made for motor and wheel clearances.

The cab roof was riveted and then bent to shape. This was then beaded and the two whistles were sweated in position.

Taking a sheet of thin metal, an arc was scribed on this to the radius of the roof. The roof was then pre-bent as previously mentioned and soldered at right angles to the thin plate, the contour of the roof following the scribed line. It was then cut out flush on the *inside* of the roof and a similar cut made about 1mm. away from the cab top, leaving a shaped bead at 90° to the roof, just requiring filing up. The finished bead is shown at Fig. 8c.

The sequence of assembly of this unit was as follows. First the floor was carefully soldered square to the spectacle plate. This gave a solid foundation for the cab sides, which were next added, and constantly checked for truth with a small square. Cleaning up now took place before the roof was finally soldered on.

(To be continued)

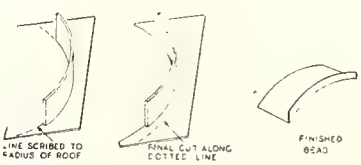


Fig. 8. Bending the cab roof.

REJUVENATING FARISH LOCOMOTIVES

by H. A. King

I HAVE had a Farish Prairie tanker for three years or so, in fact ever since the first models were produced. The starting ability of these locos has never been good, due to the fact that a two-pole motor was employed, although hauling power was excellent and I personally have always been satisfied with the loco on that account; but I vowed that some day I should have to do something about that starting!

My opportunity came recently when I acquired a Tri-ang Mark III motor. I had already fitted one of these excellent motors in my Farish G.P.5 with very good results, so I decided to have a go at fitting one into the Prairie.

The method is quite simple and should be tackled as follows.

Remove the old motor complete with pick-ups, but retain the cup into which the centrifugal clutch had been originally fitted. It is necessary to fit a longer spindle to the cup and first gear wheel, in order that the connection between motor and gearing can ultimately be made. The spindle must project $\frac{1}{4}$in. at least, as shown in Fig. 1. The cup and gear wheel assembly is then replaced and secured, in my case by a 10 B.A. nut.

It will be found that the motor will fit the chassis nicely, but in order to support it a block should be made to the size and shape shown in Fig. 2. I used a piece of $\frac{1}{4}$in. perspex, but any type of insulating material will suffice. The block should then be bolted to the chassis as shown in Fig. 3. Two $\frac{1}{32}$in. diameter holes should be drilled in the block to carry the pick-ups, which will bear on the wheel flanges. The rear end of the motor is secured by a bolt and collar as shown—not tightly secured, as I get better running with the motor loose. The connection between the armature spindle and the driving spindle is made by means of a piece of rubber tube $\frac{1}{2}$in. long.

The leads from the motor brushes should be soldered to the pick-up wires as shown and the latter secured in the holes by a spot of Durofix.

The fitting of the Tri-ang motor to the Farish G.P.5 is a somewhat simpler proposition than that encountered in dealing with the Prairie tanker, but the results are so very good that I have no doubt that other owners of this particular locomotive will not grudge the modest expenditure incurred in the purchase of a new motor. I fitted the Mark III motor to my locos, but if the Mark IV motor is as good as reports would indicate even better results should be obtainable. Running is much steadier, and with resistances of 60 and 100 ohms I can obtain very much slower running than was possible with the old motor.

However, as I imagine that some readers are eager to get going—and may already, in fact, have slipped round the corner to buy that new motor—let us cut the cackle and get down to business.

Remove the old motor by filing away the heads of the two hollow rivets at the rear of the tender and cutting the leads to the pick-ups. Take care not to use much force in removing the rivets, otherwise a cracked or broken tender base will be the result. No alteration to the clutch drum assembly is necessary this time, the rubber tube just fitting nicely over the end of the spindle which projects through the drum. Now place the motor on the tender to try for position. In the tender base (Fig. 4) is a hole through which the old motor projected. It may be that you will find it necessary to slightly increase the *length* of this slot by filing, so that the front plate of the motor bears up against it while at the same time the bolt clip at the rear of the motor lines up with the two old rivet holes (Fig. 4). Mark the position of the bolt hole on the tender, remove the motor and carefully drill the tender for a 10 B.A. bolt. Make sure that you support the tender base when you do this (a small block of wood underneath will suffice), otherwise you will break or crack the brittle plastic of which the tender is made. Now fit the rubber tube on to the motor spindle and place the motor in position by sliding the tube over the end of the clutch drum spindle.

In order to lift the motor up into a horizontal position it will be necessary to support the rear end with a collar or washer. Pass a 10 B.A. bolt (Fig. 5) through rear clip on motor, through the washers and tender, and finally put on the coupling and secure with the nut. I do not tighten up the bolt, as I get better results with the motor loose. The nut may be secured with a spot of shellac. Here allow me to digress for a moment. During the war I used extensively a little gadget known as a Simmonds locknut. These nuts had a rubber insert on one side, which meant that when the nut was tightened up it was proof against loosening through vibration.

As far as the pick-ups are concerned I did not alter them, as they are very efficient. Solder fresh leads to the pick-ups (an awkward job), pass them through the front hollow rivet holes and solder to brush holders.

Now for the tender cover. You will find that it will not bed down as it did previously. There are two snags: 1, the head of the bolt which secures the inside of the cover; 2, the brush holders themselves touch the top of the tender. The exact position can be found easily if a spot of paint is put on the bolt and brushes, and the cover pressed down. The bolt head is easily dealt with by drilling a $\frac{3}{16}$in. hole in the cover (carefully). The second snag I dealt with by cutting $\frac{1}{32}$in. off the brush holders, as the thickness of the cover does not permit of any plastic being removed.

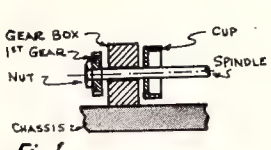


Fig 1

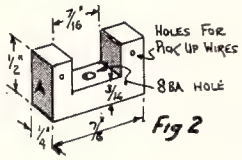


Fig 2

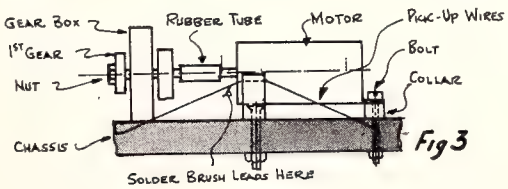


Fig 3

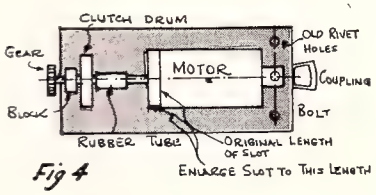


Fig 4

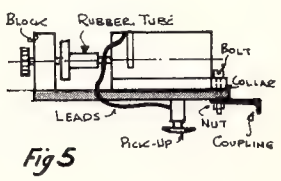


Fig 5

Do It Yourself—No. 13

WAREHOUSES

by Stanley Elson, A.R.I.B.A.

Three unusual low-relief models which can form the background to dockside or goods yard.

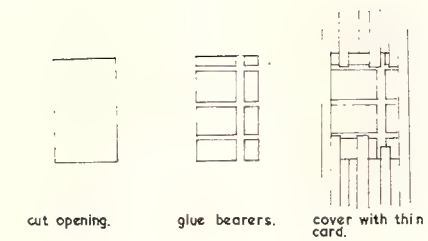
MANY model railways include a small river or harbour, and as I found great difficulty in obtaining details of the warehouses which are to be found in such places I have shown drawings and photographs of three models which have recently been built in the harbour of my own model, the Potters Heron Railway, and which will, I trust, be of some assistance to those modellers who are in the process of making their model waterfronts.

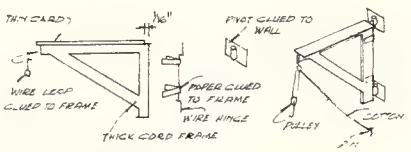
The buildings are quite easy to construct, using traditional methods of construction described many times in this and other magazines, and fully explained in John Ahern's admirable book *Miniature Building Construction*, so I will not bore you with a lengthy description of the way in which they were constructed.

A few constructional points will, however, clear up one or two features not shown in the photographs or drawings.

The warehouses of "Collie's Ochre" are of timber construction with vertical boarding which in one place has been damaged rather badly. In the model the area which has been supposedly damaged was marked out on the thick cardboard base as a rectangular opening. An area was then cut out, using a sharp-pointed blade and a steel rule, and 1mm.-thick strips of wood were glued into the opening at 6mm. vertical centres to represent timber bearers.

The facing of the building, which is of thin card, had previously been scribed to represent the 6in. vertical boarding, using a blunt knife and a steel rule at 2mm. centres.





hoist construction.

To obtain an irregular opening the strawboard was first placed over the card and the opening marked on to the card, ensuring that all the window openings lined up correctly. This gave the exact position of the opening in the wall and showed the position of all the timber bearers on the facing card. The next step was to mark out with a pencil where the boards were to be cut.

Using a sharp-pointed blade, the irregular opening was then cut out, using the vertical lines of the boarding and the horizontal pencil marks as guide lines.

The thin card was then glued on to the strawboard and the hole covered on the rear face with a patch of thin card. Finally, the boarding was given a coat of shellac and finished with white paint, with smears of yellow to represent the dusting of ochre which the building had acquired in its weathering, and the opening was painted a light brown with splashes of black. When finished the opening looked quite realistic and certainly enhances the model.

On both Tekers' and Pauls' warehouses the lifting hoists are very prominent. Quite simple to construct, they are, when properly made and finished, attractive additions to the model.

The construction of the hoists is shown in detail. Using card about $\frac{1}{16}$in. thick, the hoists were first marked and cut out, using a sharp-pointed blade and a steel rule to obtain a clean edge. Along the top face of the hoist a strip of thin card $\frac{1}{8}$in. wide was glued, overlapping the free end by $\frac{1}{32}$in. and finishing $\frac{1}{16}$in. short of the fixed end. To the free end was glued a small piece of wire bent as indicated to form a pulley, and to the rear face was glued a piece of wire to form the hinge, which was firmly secured with two tabs of paper.

Two pieces of fine aluminium or plastic tube $\frac{1}{8}$in. long were then cut and glued to two pieces of card $\frac{1}{4}$in. long x $\frac{3}{32}$in. high, to form the hinge. When all the joints were dry, a tube was slipped on each end of the wire pivot and glued firmly to the wall of the building.

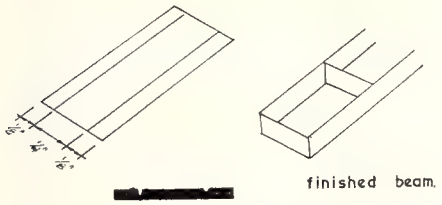
Thin cotton, grey or brown in colour, was then fed through the pulley hole and

Cross-sections of warehouses.

loosely tied round a pinhead firmly fixed to the building, while the other end was run through a small ship's block to which had been soldered or glued a wire hood, and cemented into place at the end of the hoist. When painted a dark grey with flecks of brown, rust and vermilion oxide undercoating, the crane looks quite realistic.

The iron beam which supports the building owned by Tekers' was built up as follows: a piece of thin postcard ½in. wide and the length of the building was first cut out, two lines ⅛in. from each edge were scored the full length of the strip, and the two edges were then bent up to form a channel. At ¾in. centres, small pieces of card ¼in. x ⅛in. (which are best held with a pair of tweezers) were glued into place, and when the beam was set it was glued into place on the building. The columns were finally fixed when the model was attached to the baseboard.

The beam can be painted to match the rest of the building, but small flecks of browny red and pure vermilion give it a



steel beam construction.

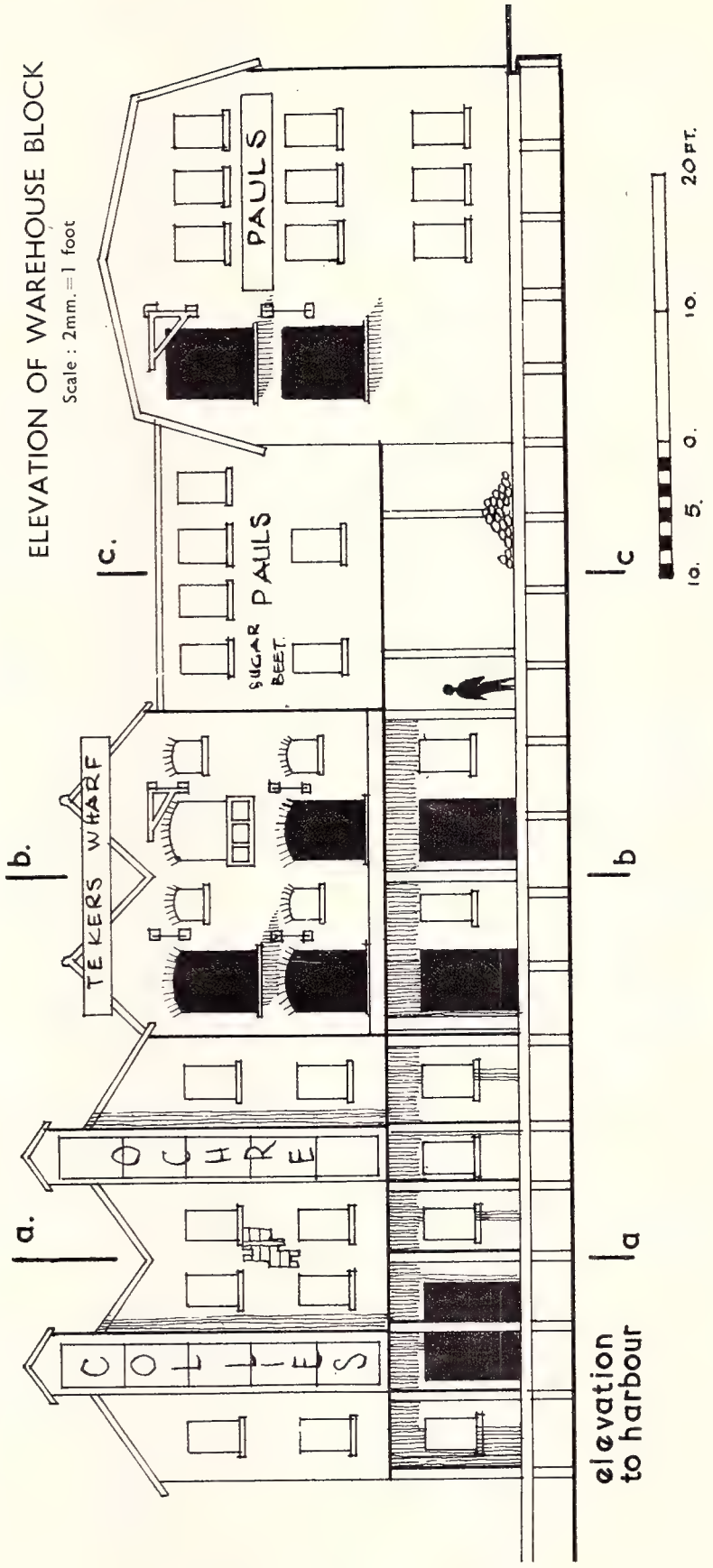
nice weathered appearance in keeping with the buildings typical of their kind.

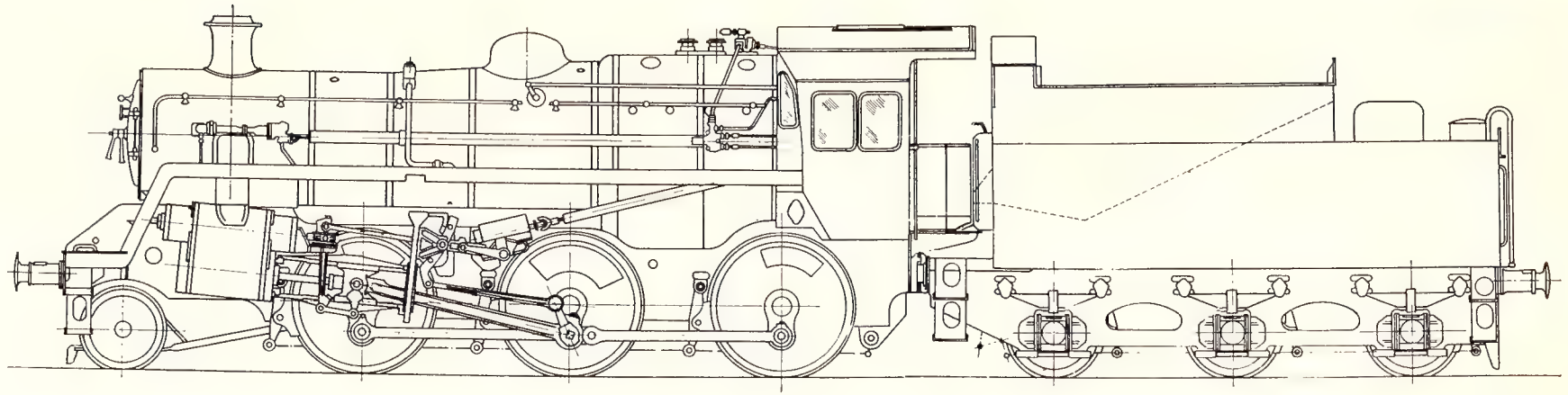
In all three types the windows were constructed in a similar manner, and are described below.

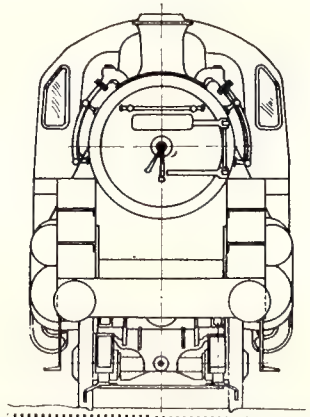
The basis for all my buildings is thick cardboard or strawboard, finished with thin card. This material not only provides a strong laminated structure, but gives a finer surface when the structure is painted. The normal sequence of building is first to draw up the elevation on thin card and cut this out. These formers are then used to trace the outline of the building, together with the openings, on to the strawboard, which is also cut out.

The method of constructing the windows is now as follows: strips of card the length of the building and twice the height of the window are placed behind the strawboard, and the opening is traced on to it, using a sharp pencil. If the pencil

(*Continued on page 14*)





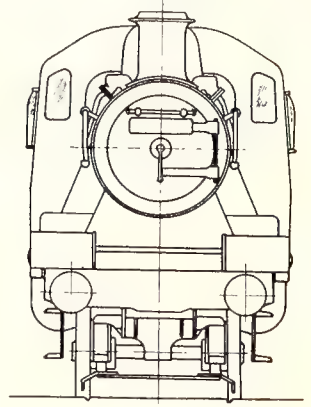


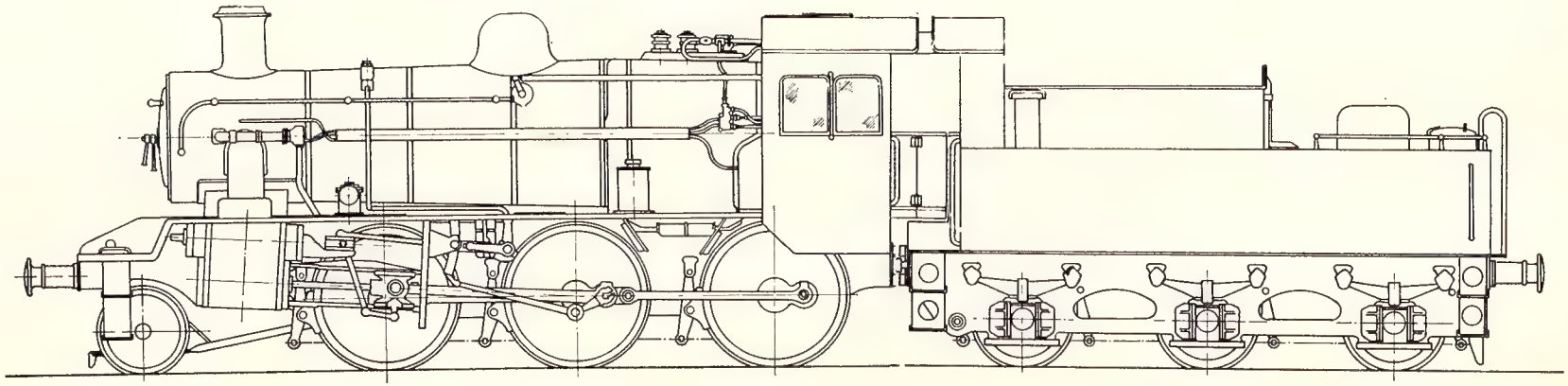
B.R. Standard 2-6-0
Class 3

Driving wheels, 5′ 3″ dia.
Leading wheels, 3′ dia.
Tender wheels, 3′ 3½″ dia.
Wheelbase and overhang
Loco, 3′ 11½″+8′ 9″+7′ 7″+7′ 9″+4′ 8¾″
Tender, 4′ 6″+6′ 6″+6′ 6″+5′
8″ between loco and tender
Length overall, 55′ 11¼″
Boiler pitch, 8′ 7½″
Overall height, 13′
Overall breadth, 8′ 6⅝″

B.R. Standard 2-6-0
Class 2

Driving wheels, 5′ dia.
Leading wheels, 3′ dia.
Tender wheels, 3′ 3½″ dia.
Wheelbase and overhang
Loco, 4′ 0¼″+8′ 6″+6′ 9″+7′+4′ 2″
Tender, 4′ 1″+6′ 6″+6′ 6″+5′ 1¼″
7″ between loco and tender
Length overall, 53′ 2½″
Boiler pitch, 8′ 3″
Overall height, 12′ 9½″
Overall breadth, 8′ 6″





ALTNASLANACH BRIDGE

by Sir Eric Hutchison, Bart.

A timber bridge with three useful attributes—it still exists, it is built for double track and it is small and easy to build.

IT is a source of great regret to most of us, even though we may not be Great Western enthusiasts, that the fine old timber bridges of Brunel's day have gone the way of all flesh. But there is a grain of satisfaction in the continued existence of one timber structure of reasonably modern design—and, what is even better, in the probability of its remaining in use for many years yet.

This bridge is on the Highland Railway main line, about half a mile north of Moy station and eleven miles south of Inverness. It is no doubt familiar to those who have travelled that way by road, as it is situated only about fifty yards from the roadside. In Highland days, when bridges were not numbered, it was known by its name only, but it was given the number 289 in L.M.S. years and is now recognized thus.

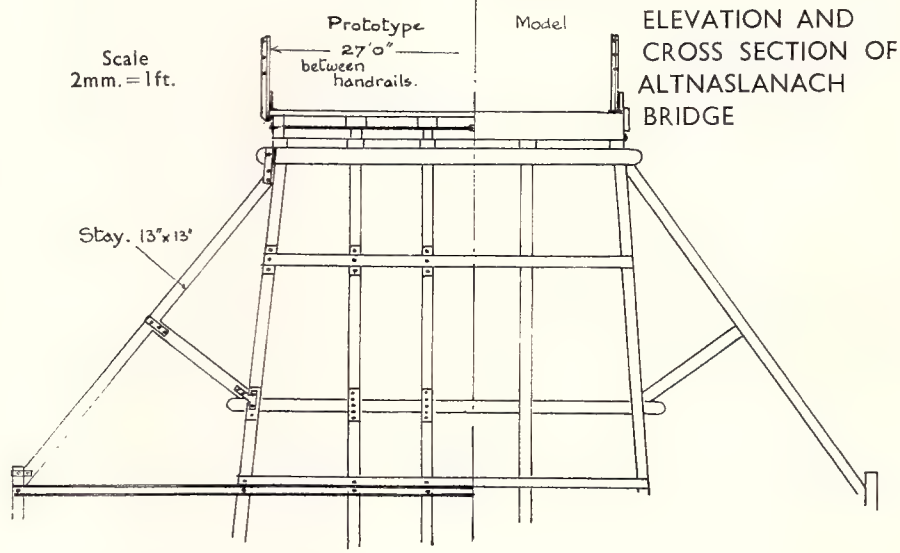
It is perhaps a little unusual to find a timber bridge built as recently as 1897, but the story is told that when the engineering committee was discussing the construction of the direct Aviemore—Inverness line (on which Altnaslanach is situated) it was decided that, since variety is the spice of life, all bridges were to be different. I do not know whether this story is apocryphal or not, but the fact remains that no two bridges are exactly alike, Altnaslanach being the most unusual of the lot.

Apart from its design, its size renders it very suitable for modelling, as it is not too big for the average layout. The drawings show half the side elevation and the cross-section, the latter being made up of the prototype section and a suggested model section.

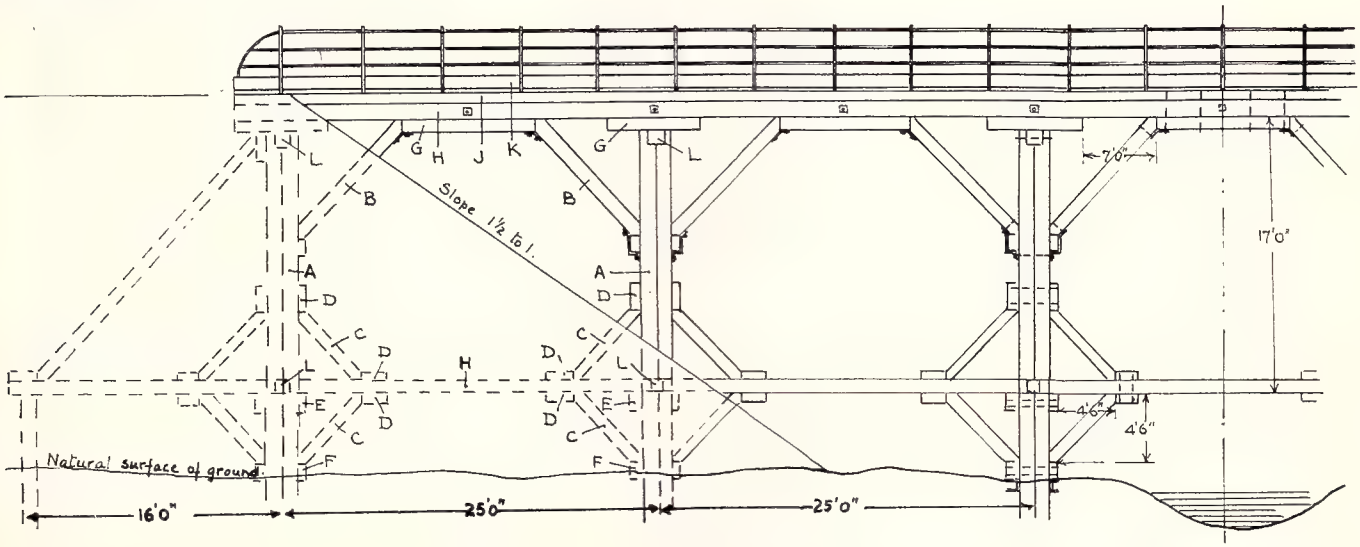
Referring to the side elevation, the following are the dimensional details of the various components:

A. Piles, 13in. x 13in.
B. Struts, 13in. x 13in.
C. Lower struts, 10in. x 10in.
D. Chocks, 24in. x 12in. x 6in.
E. Chocks, 24in. x 13in. x 6½in.
F. Through bracing, 12in. x 6in.
G. 15in. x 10in.
H. Upper and lower shoes, 13in x 13in.
J. Way beams, 18in. x 13in.
K. Steel ballast plate, 15in. x ⅜in.
L. Through brace, 13in. x 13in.

Although the line from Inverness to Moy is single, there was always the possibility that it might one day be doubled, and consequently the bridge is designed to carry two tracks although only one is actually laid. I think that to reproduce this in a model results in an odd and unreal looking arrangement, though to cut the bridge down to carry only one line of rails looks worse, so in the models I have built—and I have made four, two in "O" gauge and two in "OO"—I have compromised and made the bridge floor about 2⅝in. wide in "OO" and 4½in. in "O"



ELEVATION AND CROSS SECTION OF ALTNASLANACH BRIDGE



gauge. The end section shows how the model is arranged. While in the original the corrugated steel floor is carried on upper and lower waybeams separated by dwangs (a dwang is the name given in Scottish building construction to distance-pieces) and braced by steel bars, in the model the floor and way beams are replaced by a single wood floor. Since the two end piers are entirely covered by embankment, they can quite well be replaced by solid pieces of wood, only such struts as shown above the ground level being put in.

If the width is reduced, as I have suggested, the piles can be reduced in number from six pairs to four in each pier without spoiling the appearance of the model. I have found it best to make the piers first, the piles being notched out to take the upper and lower through braces,

A simple jig takes only a few minutes to make and makes assembly of the piers quite a simple matter. One pile of each of the centre pairs is left long for insertion into holes made in the baseboard. Probably the most secure way of attaching the floor is to leave the piles long at the top as well as at the bottom, and to drill the holes for these piles through the floor and the baseboard at the same time, but if this method is used the 15in. x 10in. members G will have to be "faked in" on either side of the long piles. Personally, I have not found that very secure attachment of the floor to the piers is necessary, provided the end piers are made of solid wood as I have suggested. If this is done, end movement of the floor will not take place, so that there can be no strain on the pier joints.

In the interests of strength, the handrail stanchions should be soldered to a length of brass strip, and the rails themselves soldered to the stanchions, so that the whole assembly can be attached in one unit to the bridge. In "OO" gauge something smaller is required—"OO" rail with most of the head and base filed off is quite good.

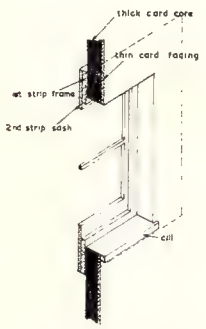
The bridge should be finished to represent creosote, and for this purpose nothing is better than Colron wood dye, dark oak shade. The ironwork—both handrails, stanchions and the various straps and plates—has always been medium grey from Highland days right through the L.M.S. period. Within the last month, however, a much lighter shade has been used. This, though, is a detail which will not worry most people: the main point is that the ironwork is grey and not the more usual red oxide.

Warehouses

(*Continued from page 11*)

is held perfectly upright, the opening when cut forms a smaller opening, and gives the appearance of a frame. Using this strip as a former, another piece of card is used and the openings are again marked out. Across the centre of the opening two lines are drawn to represent the sashbar.

The openings should be cut 1mm. smaller than the frame opening at top



WINDOW CONSTRUCTION

and sides, and 2mm. at the bottom. The two pieces of card are now glued on to the back of the strawboard and either celluloid or black paper, suitably scribed in white ink to represent glazing bars, finishes the window.

Though the building materials for Tekers' and Pauls' warehouses may be exchanged for each other, Collies is, I think, a definitely timber type of building and would lose some of its interest if converted to a brick building.

Packing cases, people and other similar wharfside items can be added as the modeller wishes. For Messrs. Pauls' sugar beet I found that pearl barley, suitably glued into heaps and coloured, made a good imitation of the vegetable in miniature.

Of course, one can keep on adding small details, and one never tires of thinking up something fresh to add.

Book Reviews

THE SOUTH WESTERN RAILWAY, by C. Hamilton Ellis (Allen and Unwin, 30s.).

The London and South Western Railway was an excellent railway; while it never achieved popular renown, it at least avoided the depths to which practically every major line sank at some time or other in its history. It was singularly fortunate in its officers—able, practical men not given to flights of fancy that might cost the company dear. Its locomotives were excellent, it served pleasant places and its ways lay through beautiful countryside. It carried on a most delightful feud with the Great Western, perhaps the only fight between the companies that was conducted on sportsmanlike lines (allowing the South Western's habit of establishing an outpost behind the broad gauge lines and building out to meet it to be a fair gambit). It succeeded in removing its only serious blemish, old Waterloo station, and left to the Southern the finest terminus in London. Add to this the fact that Hamilton Ellis was practically born on the line, and the result must be an excellent book.

It is sub-titled "a mechanical history and background," and therefore the story is mostly taken up with the locomotives and coaching stock. The background is reasonably clear and certainly gives a fairly concise account of the growth of the line. There are, as one would expect, plenty of anecdotes, told in the inimitable Hamilton Ellis style. Of these our favourite is the account of Drummond's ghost, which is alleged to haunt the line near Brookwood, urging the drivers to greater efforts. Is this the reason for the excellent time-keeping?

THE FESTINIOG RAILWAY, Vol. 1, 1800-1889), by J. I. C. Boyd (Oakwood Press, 24s. 6d.).

The Festiniog Railway was, as most readers will know, the first true narrow-gauge railway on which steam working took place, and as such began the whole business of narrow-gauge railways. It has been the subject of many articles in the press, technical, prototype and model, and references to it abound in dozens of works, but hitherto no full-dress history has been available.

J. I. C. Boyd is perhaps the person best qualified to produce such a history. The work is exhaustive and contains a mass of detail, much of extreme fascination to the enthusiast. For the narrow-gauge modeller there are track plans, drawings and exhaustive details of rolling stock, while many really large photographs—two of which occupy spread pages—add to the completeness of this record.

The body book is printed throughout on art paper, thus allowing greater scope for illustration. It is pleasing indeed not to have to turn to the nearest art paper insert in order to follow some detail in the text more clearly. There are six facsimile plates taken from Vigne's account of the railway, a folding plan of Portmadoc and a large table detailing the locomotive trials which followed the introduction of the Fairlie locomotives. The maps, plans and line sketches are by J. M. Lloyd, other drawings are by R. E. Tustin. Altogether the production of this excellent book is a credit to author, illustrators and publishers.

Prototype of the Month

STRINES (L.M.R.)

by Alan H. Bryant

THE Midland Railway has always been my favourite prototype, and while looking around for prototype information I realized that I would also like some Great Central locomotives and stock to run on my line.

Strines station, which is on the former Midland and Great Central Joint Railway, is one of the most suitable prototype stations for my line, although I have yet to visit some similar stations on the Cheshire Lines Committee.

The traffic through Strines is not very heavy, but there are quite a number of different types of locomotives to be seen.

The Manchester London Road to Hayfield trains usually consist of four or five non-corridor coaches of Eastern Region design in rather poor condition. Great Central class C13 4-4-2 tank locomotives are usually employed on this duty.

The trains from Manchester Central to Derby and Sheffield usually consist of four or five corridor coaches of London Midland design, the locomotives used being any of the following types: ex-L.M.S. classes 2P and 4P 4-4-0, ex-L.M.S. Stanier class 5 4-6-0s or B.R. standard class 5 4-6-0s.

Several passenger trains do not stop at Strines, one of these being the Liverpool-Nottingham express. This train consists of eight corridor coaches of London Midland design and is usually hauled by an ex-L.M.S. 4-6-0 "Jubilee" class locomotive.

Goods traffic through Strines is quite heavy. Ex-L.N.E. J10 0-6-0s are used on light pick-up good trains, with ex-L.M.S. Stanier 2-8-0 and W.D. "Austerity" 2-8-0 locomotives sharing most of the through traffic.

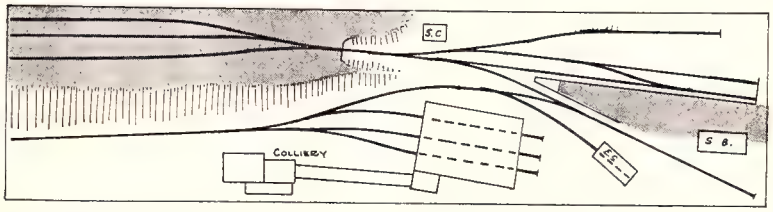
There is a two-road siding with a goods shed for one of these lines. Most of the traffic is for a nearby print works.

The signal-box, situated near the end of the up platform, is of typical Midland design and is painted in British Railways red and cream.

Layouts for the Modeller

PRIZE PLANS FROM NOTTINGHAM

Late last year the Nottingham Model Railway Club held a layout planning competition, the design to be for a self-contained "OO" gauge layout on an 8ft. x 2ft. baseboard. We publish below the three leading entries, for we feel sure that many readers will find at least one of these plans provides an answer to their requirements.



PLAN BY A. J. WILSON

This layout is designed to be operated in two portions; normal branch line and good services would be operated while at the colliery a private locomotive would shunt wagons under the coal hoppers and coal trains would be operated periodically on the main line. The colliery could, of course, be replaced by a stone quarry, factory, dockyard or what have you, and it need not be constructed until the main branch has been installed.

EDITOR'S COMMENT

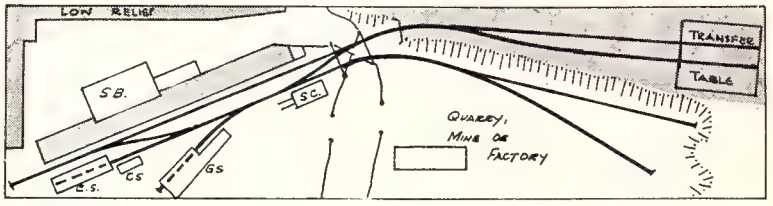
This plan offers a welcome breakaway from the usual branch layout while still keeping to British practice. Moreover, it allows two operators to work simultaneously—a decided achievement in so small a space without departing from strict prototype practice. The use of a compound ladder for the colliery sidings is both space-saving and authentic.

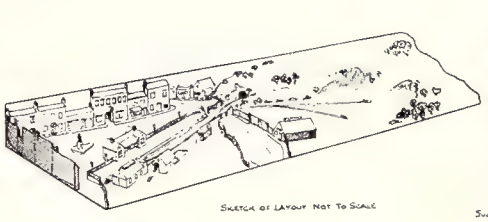
PLAN BY M. H. BRYANT

A simple terminus design which can be divided into two boards for portability. The sketch shows the arrangement of the baseboards (which could be adopted for all plans), while suggested scenic development is given.

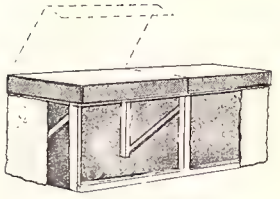
EDITOR'S COMMENT

A classic small-space plan, giving good scope for the scenic modeller. This is a very important point if the layout is to be housed in a living room—womenfolk definitely prefer the final model to look pretty. The transfer table is of dubious value. Experience shows that crane shunting is the ideal way of working hidden sidings. Moreover, in the present case the storage space is restricted, and one cannot really leave one road dead simply to provide a run-round.

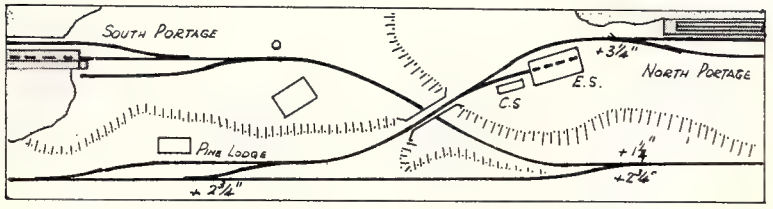




Sketch of Layout Not To Scale



Suggested Arrangement of Baseboard As Sideboard Fitment



PLAN BY ADRIAN LE MOTTEE

EDITOR'S COMMENT

A highly original solution, based on a Commonwealth prototype. The recommended locomotives will tackle the grades without difficulty.

This plan makes a deliberate break from the inevitable terminus-into-tunnel arrangement for small-space model railways, and is, moreover, based with fair accuracy on an existing prototype as to track arrangement and operating equipment and methods.

HISTORY

The prototype of the plan is the Huntsville Lake of Bays Railway Company, which operates 1⅛ miles of track, hauling passengers and freight between two lakes about 150 miles north of Toronto, Canada. Loco stock comprises two 0-4-0 saddle tanks of 17 and 21 tons weight, which share the task of hauling the road's one box car, two flat cars and two open-sided ex-street-car passenger vehicles.

The whole railway is described and fully illustrated in *Model Trains* for June 1955.

THE MODEL

Two liberties only have been taken with the actual track arrangement for the purposes of fitting the space in hand. Two "switchbacks" or reversing points have been used instead of the one on the original, and the loco shed and water tank have been moved from South to North Portage.

The line terminates at either end on or alongside a lakeside quay and these have been followed accurately from the prototype. Note that the quay at South Portage has a "train shed" over only one of the tracks. The grades are heavy, but then the trains can never consist of more than two cars, so no difficulty should be encountered on this score.

EQUIPMENT

To follow the prototype, loco stock should consist of two Rivarossi "dockside" 0-4-0 saddle tanks, with the rolling stock built from scratch and mounted on diamond-frame bogies.

If it was required to "anglicize" the line on light-railway principles, a Hambling "Gnat" and one of Rivarossi's new four-wheel diesel "things" would be admirably suited. An old four-wheel coach would negotiate the curves quite easily and goods trains of three or even four wagons could be accommodated.

TWO PROVOCATIVE IDEAS

by P. D. Hancock

THE SCALE FOR THE SPACE

MOST people who are hard pressed to find space for a layout usually adopt the smallest possible scale to work in. This is understandable enough, and it is, in actual fact, just what I have done myself. But recently I have been wondering more and more whether this is necessarily the right approach to things, and I have almost convinced myself that the ideal is either a large yet *simple* layout in a small scale or a small yet perfectly detailed layout in a larger scale.

In the former case one would aim more at a general effect than at overall perfection. Thus one would have scale but not super-detailed rolling stock, and there would possibly be a good deal of attention paid to scenery. Track would be built to give as long a length of run as possible, but it would be simple, with very little pointwork, and therefore comparatively easy to maintain and keep in good running order. There would be two, or at the most three, stations, and these would consist of very little more than a run-round loop and one or two sidings. The main interest in such a layout would be in seeing the trains running through the landscape and in working out timetable operations.

But where one simply has not the space for this, I am inclined to think that it would be better to concentrate on *detail*, and to build as well as one can, rather than try to cram a quart into a pint pot. Therefore, why not adopt a larger scale—7mm. perhaps—and build some models of which you can be really proud? The larger scale will be more comfortable to work in, and more reliable to operate, so that a small station and goods yard, perhaps, could be worked at scale speeds and with the utmost realism.

What is more, if you have to have a small layout you will find that you tend to look more closely at things, and whereas a 4mm. scale express train somehow seems satisfactory enough speeding through one's countryside, it seems to lose something when you slow it down and try to examine things more closely. Somehow the sense of massiveness and power which we feel about the real railways fails to come to life. Meticulous modelling and the ability to operate at very slow scale speeds can overcome this failing to some extent—but then reliable operation at slow speeds is not exactly what 4mm. scale is famed for. But 7mm. or 10mm. scale—that's a different story! If one tries, one can really get a loco to crawl and keep on crawling—even when there is dust on the track and when the oil in the axle bearings has caked hard! What is more, one's rolling stock does seem to have some weight and size to it, and one can *hear* the smack of buffers and the clank of coupling chains without having to strain to do so.

Thus, in an ultra-small space where one simply has to operate at slow speeds, there really is something to be said after all for adopting a fairly large scale—even though the idea may appear somewhat paradoxical.

BLACK LOCOMOTIVES

WHY do we paint our locomotives black? It seems to be the accepted finish for tank locomotives, and even for tender locomotives when they are not being painted in their pre-grouping or pre-nationalization liveries.

True, many locomotives *are* painted black, but how often do we see them that colour? Are they not, more often than not, a sort of over-all dingy brown-black? Well then, why not paint them like that? It is easy enough—just add a little brown to your black paint, and give the loco a uniform coat of the stuff. While it is still wet, work in a few touches of red-brown to represent rust near the handrail supports, and add one or two streaks around the boiler, dome and side tanks. You will probably be quite amazed (and pleased) with the result. Not only does it look more like the real thing, but the lighter tone of the paint will reveal all those little details which were formerly lost from sight amid the Stygian gloom of a dead matt black finish, or else over-emphasized and equally lost amid the high-lights from a too glossy black finish.

Oh, yes—and don't forget the coupling-rods and valve gear. Don't leave these bright and shiny. Dilute some of your paint with turpentine or acetone (according to whether you are using oil-bound or cellulose paint) and run your brush lightly over the parts, so that they lose their shine but still remain "metallic" in appearance. You can also apply a thin coating or "stain" of the paint to the red buffer beams—just enough to "dirty" them, but not so much that the red disappears altogether.

A PUB FOR ENTHUSIASTS

Our photograph shows Mr. Cyril East's model of the "Duchess of Buccleuch," which won the "Model Engineer" championship award for 1956 and the Crebbin Cup for the outstanding locomotive at this year's Model Railway Exhibition. Left to right: Mr. J. N. Maskelyne, Mr. J. S. Eagles of Whitbread and Co., and Mr. East.

THE saloon bar of the Railway Tavern, a joint Whitbread/Bass house opposite Broad Street and Liverpool Street stations, E.C.2, has been recently entirely redecorated, the theme of the decor being, appropriately, railways. The bar was officially opened on October 30 last by Mr. J. N. Maskelyne, the popular editor of our contemporary, the *Model Railway News*, a leading authority on railways in general and steam locomotives in particular. Many fine models are on view, together with a collection of interesting old prints and company crests, the collection being well worth a visit, even if there were no other reason for entering the bar.

"TRANSPORT TREASURES" AT EUSTON

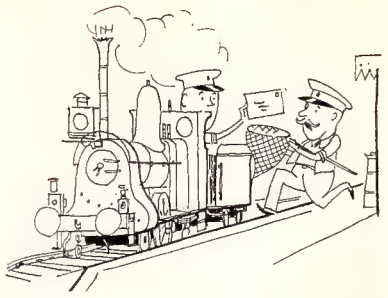
The British Transport Commission is now staging another historical exhibition, entitled "Transport Treasures," in the shareholders' meeting room at Euston station. The exhibition is to remain open indefinitely and displays miscellaneous items from the Commission's collection of smaller relics illustrating various types of public transport and their histories.

The display material will be changed from time to time, priority being given to recent acquisitions.

The exhibition will be open to the public from 10 a.m. to 6 p.m. on weekdays and from 2 p.m. to 6 p.m. on Sundays. Admission 6d. An illustrated brochure, written by Mr. L. T. C. Rolt, describing many of the transport relics preserved by the British Transport Commission, will be on sale, price one shilling.

We feel sure that our readers will find this exhibition of considerable interest.

READERS' LETTERS



A free-for-all forum of ideas and opinion.

AN APPEAL

I am building a model representing part of the old West Somerset Mineral Railway, and wonder if any reader can possibly help me as regards the liveries of locos and rolling stock. Since this line has been closed for nearly sixty years (apart from a short reopening), I expect my appeal will be in vain, but RAILWAY MODELLER readers certainly know some odd facts, judging by past letters, and possibly someone can help.

I should also be grateful for details of sources of photos, etc. (I have been in touch with L. & G.R.P., and Mr. H. Hole, of Williton).

S. MOORE.

Crossmead, Dunsford Hill, Exeter, Devon.

A PLEA TO ADVERTISERS

Arising from Mr. Boyd Carpenter's letter in the November issue, might I suggest, entirely without malice, that it would be helpful if the Exley and many other advertisements were more specific as to what was available. The Exley advertisement on page xxi, for instance, does not advertise coaches but a catalogue, and I would hate to have to buy a catalogue every time I wanted a coach, maybe once a year, not least because the sight of it makes me want to spend money I can't afford!

Again, I do not know what Mr. Boyd Carpenter's sales policy may be, but if there is anywhere nearer here than London where Exley coaches, in reasonable variety, are available "off the shelf" I have yet to find it.

Might I conclude with an appeal to all advertisers that now and again they give the proprietary and well-known material a rest and, if only for the benefit of us poor yokels outside London, give details of some of the more obscure items for which we cannot browse around so easily.

Bristol. J. HARRISON.

FUN WITH FIGURES

I was greatly interested in the article by Messrs. Wehrli and Millen (September 1956,) also in Mr. Ahern's fashion notes, as I have for some time been engaged in populating a layout of the 1910 era with Huminitures. I will shortly let you have a few photographs of the results, together with some notes on the techniques used, which in some cases differ considerably from those described. But in the meantime I should like to ask one question which was not treated in the article. You scrape, file, heat, bend, twist and cut the poor creatures, and smother them with paint, and then—what?

The makers suggest sticking them on plastic baseplates, which are too conspicuous. Owing presumably to tool-making difficulties the characters have only rudimentary pedal extremities and cannot stand alone. Inserting the blunt end of a pin in a suitable portion of the victim's anatomy is useless where the baseboard is hard. Cementing permanently in place is undesirable, as it gives the game away in a series of photographs, and in any case there are already too many things which do not happen on a model line to make it desirable to add to them. In my case, the ends of the limbs were trimmed off square, and "feet" cut to size from plastic sheet of varying thicknesses were cemented on. It is possible to make them slightly oversize without it being noticeable, and it helps out to put the extra bit at the back, where it will generally be out of sight anyway. This idea has one other advantage, as the height can be increased, for most of the men are rather undersized. For the best results the feet should be separated slightly.

The writers ask about information on railway uniforms. I know of no article on the subject, and most of the information must be dug up in odd corners, of which I suggest three. Some of the "popular" *Our Home Railways,* have photographs of books of the 1912 era, such as Gordon's guards, restaurant car attendants and so on. The *Railway Magazine* and other periodicals have articles on important stations, usually with various functionaries in uniform distributed around. Even better, however, are the various magazines which some of the railway companies used to publish, with notes on promotions and retirements, and articles dealing with various aspects of the company's work, such as ticket inspection or parcels delivery. These were in most cases lavishly illustrated with portraits, and give lots of views of advertisements and notices of the period. The Great Eastern Railway magazine had even a women's fashion page, from which it was possible to plot a graph showing the diameter and elevation of the waist for almost any year.

London. PHILIP E. BARNES.

D.P.D.T. SWITCHES

With reference to H. Pughe Morgan's query about double-knife switches (November issue letters), there is an excellent compound roller switch on the market which he may be able to use should the former prove unobtainable.

This switch is manufactured by A. F. Bulgin and Co. Ltd., By-Pass Road, Barking (usual disclaimer), and is of extremely robust construction, carrying a peak current of two amps at 6-12 volts D.C., and is placed below the panel, a bush carrying a ball, pear or slotted "dolly" passing through the panel drilled to $\frac{15}{32}$in. diameter. Two varieties of this switch are obtainable, S270 for panels up to $\frac{11}{64}$in. thickness, and S485 for panels up to $\frac{51}{64}$in. thickness.

These switches can usually be obtained in radio shops specializing in small parts, but if unobtainable from these sources the manufacturers can supply direct.

London. NEIL SIMMERS.

GRIMSBY AND IMMINGHAM

I was most interested to read the article concerning the Grimsby and Immingham Tramway (RAILWAY MODELLER, September 1956).

I have many happy memories of the Gateshead trams on the Low Fell run. Well do I remember the conductor who, when on early shift, used to lend out his morning papers to the regular travellers, and the small driver who used a small box to stand on to give him a better view ahead.

The photograph shows one of the cars en route to its new home. The cars were loaded on to engineers' department rail wagons (gorgonzolas as they are nicknamed) at Newcastle Forth goods depot for transit over B.R. Here indeed is a very novel load for anyone wanting something out of the ordinary.

Hatton. ALAN WRIGHT.

ON SWITCHES (VARIOUS)

Referring to Mr. Pughe Morgan's letter in the current RAILWAY MODELLER, the deflective activities of turnouts, etc., are not confined to model railways, but why do most railway modellers send their rolling stock through such features at speeds ranging from approximately 40 m.p.h.

(average fine scale) to approximately 220 to 375 miles per hour (normal toy train)?

As an ex-railwayman of eight years' standing, with maybe more to come one day, I can assure everyone that British Railways safeguard their interests by reducing speed considerably when negotiating a sudden change of direction.

The behaviour of engines moving around Buxton shed always delighted me. This ranged from the lumbering progress of "austerities," with much banging and clatter, down to the delicate glide of the Midland Class 3 goods, with the carefree bustle of the several "Riverside" 2-6-4 tanks in between. Perhaps Buxton's one and only diesel electric shunter was the most delightful. On her occasional homecomings from Peak Forest she used to come grumbling and trundling down to the oil-wagon next to No. 5 road, leaving a trail of creaking sleepers and warm oil fumes behind her.

I think I may be one of very few fitters who have been summoned (by an anxious driver) to remove the shed roof, or part thereof, from a "Riverside." However, this was not points or crossings, but greasy rails under some rather shaky timberwork.

I am surprised that Mr. Pughe Morgan cannot get D.P.D.T. switches! These are the lifeblood of radio sets, etc., judging by adverts in such papers as the *Radio Constructor*.

Toggle switches are readily available as S.P.S.T., S.P.D.T., D.P.S.T., and D.P.D.T. from all radio component dealers, and could be ordered by any self-respecting radio shop. Their prices range from 2/- to 4/- according to type.

These shops can supply switches, rectifiers, transformers, resistors, wire, "Systoflex" sheathing (in several colours and sizes), cable clips, relays, and many other items that will be of use on model railways. Those who trade in ex-government goods are veritable mines of odds and ends, as many modellers know.

I have recently purchased a "Type K" electric controller, this being of the illuminated push-button variety. Like its companions of the consignment, it is much bashed about, but the process of adapting it to model railway purposes will enable me to straighten things out a bit. The 500-ohm wire-wound potentiometer and the 110-ohm resistor are out, as is the fearful multi-plug, for which there is no counterpart available. I may also alter the lamps to larger bulbs; one of the little ones was broken and is irreplaceable.

Therefore I have left a fivefold reset switch group, the buttons of which are illuminated, and a three-position switch on which one position can be "locked out."

Two of these controllers side by side will therefore provide a vast capacity for section switching, unless of course the operator is so expert that he can switch in sections at the exact moment the train is entering them!

Anyway, whether with one or two boxes, or even more, I think these sets provide a fairly inexpensive and attractive method of ensuring automatic switching of any sort, whether for simple sectioning or for safety switching of two-rail polarities or something of that kind. The bank is not foolproof, by the way; by pressing two or more buttons one can nobble the works goods and proper! (Cries of "anarchy," "saboteur," "fire," etc.).

Therefore I recommend this Type K controller to anyone interested, and draw the attention of readers of the RAILWAY MODELLER, and everyone else, to the availability of numerous switches and whatnot of use to modellers at radio component dealers.

Manchester. R. C. ORMISTON CHANT.

TREES

I make a suggestion which you might care to pass on to other readers.

There is a relatively easy way to make fairly realistic trees to enhance a layout.

Messrs. F. W. Woolworth retail a product called Welsh Herb, which if placed on twigs gives a very creditable appearance.

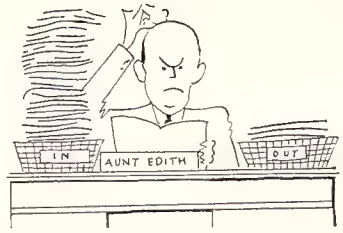
A touch of glue on the twigs is advisable to hold the "foliage" in place. This method is extremely rapid, and a forest can be fitted up in under an hour, yet it still is more realistic than the admirable products of G. and R. Wrenn and the plastic fir trees.

I have no photograph available to send to you to illustrate the results, but if you try the method it will speak for itself.

Leyton. DOUGLAS A. WARE.

ADVICE BUREAU

Queries should be addressed to the Peco Technical Advice Bureau, Pecoway, Station Road, Seaton, and should be accompanied by a s.a.e. and coupon on page x. We regret that we cannot prepare special designs for individual readers.



Can you tell me whether there is such a thing as a bogie wagon chassis that can be purchased, or can I use a coach chassis? Also, what method is there for attaching the wire ends that carry the power on the rails?

S.W., Liverpool.

No bogie wagon chassis is currently available as a separate item, as the design of bogie goods stock is more varied than that of coaches. However, there is no real need for a separate chassis if a bogie vehicle floor is made from wood, as the appropriate bogies may be screwed to the floor. Coach chassis currently available are much too long for this purpose, as the average length of a coach is between fifty-five and sixty-five feet, and goods bogie stock does not normally exceed forty feet.

It is advisable to solder all power leads to rails in order to minimize voltage drop. Alternatively, the wire may be soldered or secured underneath by Peco rail joiners at the rail joints themselves.

You strongly recommend softboard for baseboards. I have been looking for such a board, but after many visits to the city, and after looking through many "do it yourself" magazines, I have not seen any advertised. Could you send me any addresses of people who sell this board?

As the baseboard will be only 22ft. x 1ft., only embankments will be modelled. Could you tell me the best way, considering the money side, to make an embankment?

B.T., Gloucester.

Wood fibre insulation board can be obtained from any builders' merchants. It is a half-inch-thick fibrous material mainly used for coating walls and ceilings, but must not be confused with plaster board, which consists of plaster of paris covered by a thin paper-like covering and is, of course, quite unsuitable for model railway purposes. Insulation board costs roughly sixpence per square foot.

There are two popular materials for constructing embankments. The first of these is plaster formed over a suitable support. Expanded aluminium or wire mesh is ideal for this purpose but rather expensive, and therefore if cost is of prime importance the more elaborate course of using card, wood and paper can be followed. Plaster of paris is not recommended, as it tends to crack too easily. Alabastine is better, but the recently introduced Polyfilla appears to be highly suitable, as it does not shrink when setting, and therefore can be laid on in any thickness, and appears to be even less liable to cracking than Alabastine.

When complete this material is painted with oil paints. Students' oil colours are very cheap, retailing at about ninepence per large tube, and can be thinned down with turpentine or turps substitute.

To create a grass effect, two courses are available. One is to mix cork ballast with the final coating of plaster, the other is to coat the plaster with flock.

The alternative method of embankment construction utilizes lint, either dyed green or, better still, soaked in size and painted with brown and green poster colours while still wet. It is supported by crumpled newspaper, but when the size is set it is usually self-supporting.

JUNIOR MODELLER

Vehicles and their uses

HORSE-BOXES

Although the motor has in recent years taken a lot of horse-box traffic from the railway, it remains one of the more attractive of special-purpose vehicles, and is still to be seen in fair quantities, especially around racecourse stations, for there is no doubt that the quieter and faster journey by rail is appreciated by highly strung thoroughbreds.

A horse-box consists of a large loose-box for the animal or animals (most can carry two or more horses comfortably), fitted internally with manger and trough. It is interesting to reflect that horses had meals supplied thus long before restaurant cars were considered. Alongside is a single-sided compartment for the groom or owner, who accompanies the horse throughout its journey.

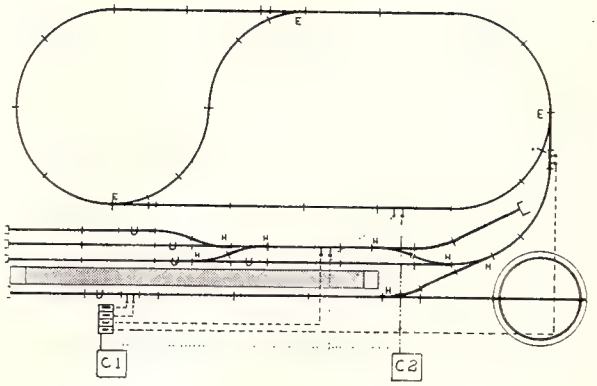
Horse-boxes can be loaded from any platform. At stations where they are commonly in use special sidings are set aside for this purpose; elsewhere use is made of a convenient bay.

Horse-boxes are fully fitted, and are normally run in mixed trains or express goods services. Special trains are sometimes to be seen, but they have become to a large extent things of the past.

The country line should certainly have at least one horse-box in its stud; indeed, with the growing interest in horse-riding and show jumping we may soon see a revival of this interesting vehicle on our railways.

TURNTABLES

No loco yard is complete without a turntable, and now that both Tri-ang and Hornby-Dublo ranges include these useful features any layout can accommodate one. The Tri-ang table is fully automatic, but has only one road; the Hornby model is hand worked, but can serve a roundhouse type shed.



Bill Of Quantities	
Straights	20
½ "	3
¼ "	1
Short "	2
Curves	10
½ "	6
Points: Hand LH	3
" " RH	4
" Electric LH	2
" " RH	1
Uncoupler Rails	4
Terminal Rails	2
Isolating Rails	2
" Tabs	1

AN OUT-AND-BACK HORNBY-DUBLO SYSTEM

THIS layout has been designed to provide correct out-and-home working from a simple terminus station. A small but adequate goods yard is provided, while a long terminal road clear of the yard permits long trains to be worked. The new turntable has been incorporated, and could form the nucleus of a loco depot by the addition of some tracks off the spare entry roads.

The main-line points are remotely controlled, but those in the station are isolating hand points, the wiring being arranged to take full advantage of this feature. Two controllers are employed, one permanently coupled to the main line, the other to the terminus, which is the simplest form of wiring possible. A more eleborate arrangement, utilizing cab control, will give greater flexibility if so desired, at the expense of some additional wiring and switchgear.

Uncoupling rails are positioned so that locomotives can be uncoupled from incoming trains and to permit shunting in the goods yard.

Further developments could take the form of a small station on the main line, together with its associated sidings, but it is felt that this layout will be ample for the average modeller.

SIMPLE BUILDING CONSTRUCTION

THE simple method of building construction that I use may be scorned by many as being unorthodox and in some ways architecturally incorrect, but over a number of years I have proved it to be very successful. The finished buildings add a railway atmosphere to even the simplest layout.

The most successful material I have come across for the various items is photographic mounting board, $\frac{7}{32}$in. thick. These boards are very cheap and strong, they cut cleanly and the close-grained surface gives a very good base for drawing the

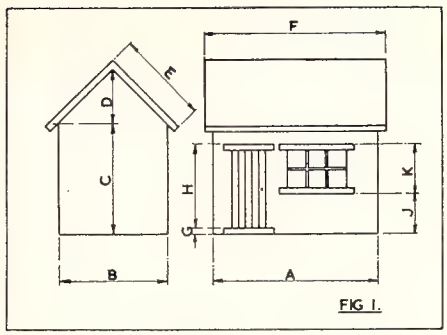


FIG 1.

parts on. To glue the parts together, a non-cellulose glue such as Seccotine or Ste-fix is ideal, as any runs or daubs can be removed with a moist cloth. Doors I make from postcard, and washed out photographic negatives provide the glazing material.

To make a decent building the first stage, that of drawing out the various parts, must be done accurately, on a drawing board if possible, using tee and set squares. One very important point is to use a really sharp pencil. For the purpose of this article we will consider a simple lineside building as shown in Fig. 1. This drawing is not to scale; the letters indicate the corresponding dimensions in Fig. 2, which shows the parts drawn out. Do not be put off by the apparent algebraic formula; "T" is the thickness of the mounting board used. It should be noticed that the side walls 2 and 3 fit inside the end walls 4 and 5. The pitch of the roof is 45°, so avoiding any chamfering of the roof components. 6 and 7 dimension "D" is therefore a half of dimension "B." By drawing out the building on the mounting board, and reading the various dimensions from the arrangement, the building should go together correctly.

Using a sharp razor-blade against a steel straight-edge, cut the parts out. A piece of glass as a cutting base gives a good clean cut on the under surface of the card, but in any case the razor-blade must be held vertically (Fig. 3). It is impossible to get accuracy if cuts are made with a razor blade held at an angle.

Construction starts by laying the ceiling, item 1, on the sheet of glass and gluing the side walls 2 and 3 to it, remembering to invert any walls which have cut-outs. It is important to keep the edges of the items level. When the glue is nearly set, invert the work and glue on the ends 4 and 5, again making sure that the surfaces are all flush. Put this part of the job on one side until the glue has set firmly.

Now take item 6 and glue on edge to item 7 to form the roof, making sure that the joint and ends are flush. The support, item 8, should also be fitted at this stage. This finished part should now be set aside to set firmly also.

Back to the walls; cut a strip of building paper slightly wider than dimension "C" and "D" and long enough to cover all the walls. Fold this strip round the building, arranging the overlap caused to come near to a corner. Remove the paper and crease the corners to give a nice sharp angle, then smear glue thinly on one wall and lay the paper lightly in place and adjust until it is square with the base, then with a light pressure rub with a circular motion, starting in the centre and working out towards the edges, so driving out any air bubbles formed. Repeat this process for all the walls, and then trim the paper to the contour of the building. The method of dealing with the windows is shown in Fig. 4, the thick lines indicating cuts. It is a good plan to hold the building against the light and make the cuts with a broken razor blade. The paper is then folded back and glued to the inside of the walls as shown. Similarly, the tile

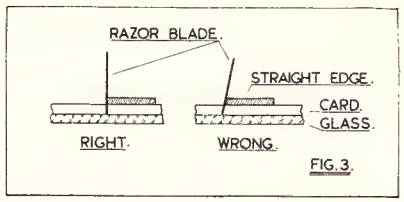


FIG.3.

paper is cut for the roof, folded, creased and glued on. When dry, the paper is trimmed to the outside of the roof, the capping tiles being dealt with as instructed on the paper and then glued on. The roof can then be stuck in place; the overlap at each end must be equal. The door is drawn out on postcard, an allowance being made for gluing purposes. The planks should be marked with a sharp HB pencil, the door being coloured with water-colours, as are also, while the paints are in use, the bare edges of the roof.

On a suitable size of the glazing material lines are scribed to indicate glazing bars, the grooves then being filled with white ink or paint, and when dry the window is stuck in place. The doorsteps, window-sills, etc., are cut as shown in Fig. 5. If they are made a tight fit for their respective openings there will be no need to glue them in. For station and

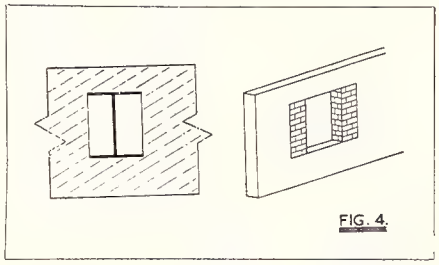


FIG. 4.

goods yard buildings suitable posters can be stuck on the walls to give that added atmosphere.

If you have a permanent layout the building can now be fastened in place, but if it is likely to be handled a lot, as on a temporary line, a floor should be made the same size as the ceiling, the corners cut off, and then glued in place.

Chimneys of the stove-pipe nature can be made from suitable size of dowel rod, while chimney-stacks can be built up from layers of the card and then covered with brick paper.

Such then is the method I use for simple buildings. Further details, such as roof gutters, downcomers, etc., can be added once the foregoing basic constructional method has been mastered. Much more complicated structures can also be split up to the basic type described. A.W.

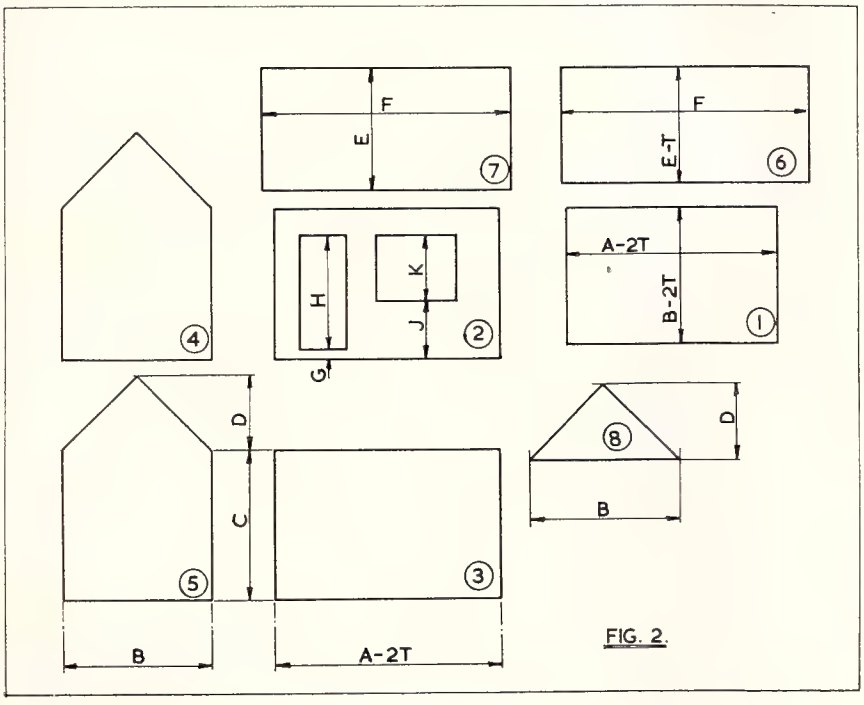


FIG. 2.

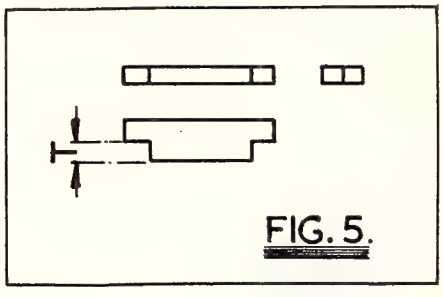


FIG. 5.

Personality Parade, No. 49

R. Weal

Northolt Model Railway Club

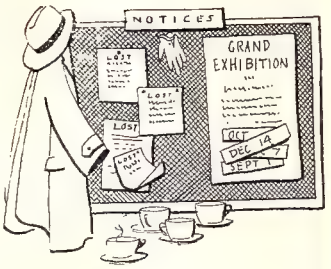
Ronal Weal started in the hobby with a Hornby "O" gauge electric railway at the end of the war. From "O" gauge he went to Trix, but, being an enthusiast, it did not suit his tastes. He then changed over to "OO" and built a small Southern layout in the loft. A "Schools" loco that he built was running merrily round the track when it suddenly took a plunge and ended up in pieces on the landing. He says he has not found all the pieces yet! Still not content with his efforts, he sought refuge with the G.W.R. He built another five locos, but this still did not satisfy him and he went L.N.E.R. and G.W.R. joint.

He then changed again, building a small L.M.S. layout and three locos this time. T.T. was next to take his fancy, and this resulted in quite a large layout. Bearing in mind that a change is as good as a rest, he decided to forsake the British outline and try his hand at American practice. Several locos were built, including a 2-8-8-2 and diesel outline models. He then returned to his first love, which was Southern.

He has now an extensive layout with twenty-five locos. Recently he has built an "O" gauge ex-S.E.C.R. class T 0-6-0 and has converted the T.T. layout into a free-lance narrow-gauge railway. Not bad going for sixteen years!

He has been hon. treasurer of the Northolt Model Railway Club for quite a few years now, and is well known to many members of South London clubs. After all this he is now a railway modeller by trade.

CLUB NOTICE BOARD



NOTES AND NEWS

The Teesside Society of Model Engineers (Small-scale Railway Group)

As a result of intensive work by two groups of workers, much progress has been made. The club's new "O" gauge fine-scale track is now in running condition and stations and scenic effects are now in progress. On track nights trains are frequent! Meanwhile, the "OO" gauge track has undergone a major operation, and, having been dismantled, is now being rebuilt on the "open top" system. Here again running has now been obtained on the main lines, and further rapid progress is expected. Both tracks are using cab control, and while the "OO" track is still two-rail the "O" gauge has, as a result of experiment, been converted from stud contact to outside-third-rail. It is hoped that it will be in exhibition state shortly.

Members of other clubs, and intending new members, can be assured of a warm welcome at Elmwood Community Centre, Hartburn, Stockton.

Sheffield Miniature Railway Society.

The above society has now obtained the use of a new clubroom at 6 Crescent Road, Sheffield Road, Sheffield 8. Meetings are held each Friday evening at 7.30. Prospective members are welcome to visit the clubroom any Friday evening.

The secretary, Mr. R. Warrington, 24 Olivet Road, Sheffield 8, will be pleased to give full details.

Herne Bay 4mm. Circle

The above circle has been formed in the town by enthusiasts working in this scale. Any fellow modellers in the neighbourhood who are interested in joining forces are invited to contact Mr. J. K. Davies at 30 Oxenden Park Drive, Herne Bay, Kent.

All present members are either building or possess layouts in stud contact, three-rail and two-rail, and would welcome increasing the circle. At present a weekly session is held by arrangement with each other, for operation and discussion on one of the three layouts at operational level, but should interest be shown it might be possible to consider a club and take in other scales. There would be a choice of suitable clubrooms in the town, a rare thing for modellers!

Sunderland and District Model Railway Club

Early in the year this club was obliged to abandon its old clubroom due to the increase in rates, but has now acquired very spacious and comfortable clubrooms at 2 Hill Street, Hendon, Sunderland, which make it possible to offer a greater variety of activities, as there is ample space in which to erect working layouts for "OO" two-rail, "OO" three rail and "O" stud contact, and for a separate committee room and reference library.

The carpenters have completed the 10ft. x 10ft. baseboard, and tracklaying is well in advance of schedule. They have now directed their activities upon the smaller layout, and also to the shelving for the reference library, after which they will make a start on the test-bed.

The club welcomes application for membership all the year round, and anyone without a personal layout need have no hesitation in contacting it. The age limits for the junior section are 15 to 18 years. The club is an associate of the Association of Model Railway Clubs.

All correspondence should be addressed to Mr. R. Lofthouse, secretary and treasurer, Sunderland and District Model Railway Club, 31 Darien Avenue, Fulwell, Sunderland, Co. Durham.

Stephenson Locomotive Society (Midland Area)

The Stephenson Locomotive Society, Midland Area, is celebrating the tenth anniversary of its establishment centred upon Birmingham by presenting a railway exhibition at the Royal Birmingham Society of Artists Rooms, 69a New Street, Birmingham (near Woolworths), from Monday, December 31, to Saturday, January 5, from 11 a.m. to 9 p.m. daily, except the Saturday, when it will close at 7 p.m. The Birmingham Model Railway Club working layout will be in operation and a comprehensive selection of models too, besides a selection of other items of railway interest such as coats of arms, photographs and nameplates. The admission price will be 1s. 6d. and all modellers are welcome. There will be film shows on certain evenings at an adjoining venue.

CONTACTS WANTED

Mr. W. Turner, of 7 Ashbourne Haven, Bolton Road, Bradford, 2, would be pleased to hear from fellow model railway enthusiasts residing in his area, with a view to forming a model railway club.

JANUARY MEETINGS

Birmingham Model Railway Club

9—Layout construction, 16.5 mm.

Bournemouth Model Railway Society

4—"Growing a Locomotive." J. Beeson.

18—Talks and questions answered by three members of British Railways staff.

Edinburgh and Lothians Miniature Railway Club

16—Film show and refreshments. J. H. Farr.

Historical Model Railway Society

7—A selection of photo slides by Mr. O. P. Wilman.

Model Railway Club

3—Track night (S.R.) at Hammersmith.

17—"The L.N.W.R." Talk by Mr. G. H. Platt at Caxton Hall.

24—Track night (G.W.R.) at Hammersmith.

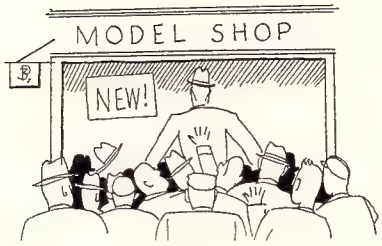
Nottingham Model Railway Club

8—Quiz night.

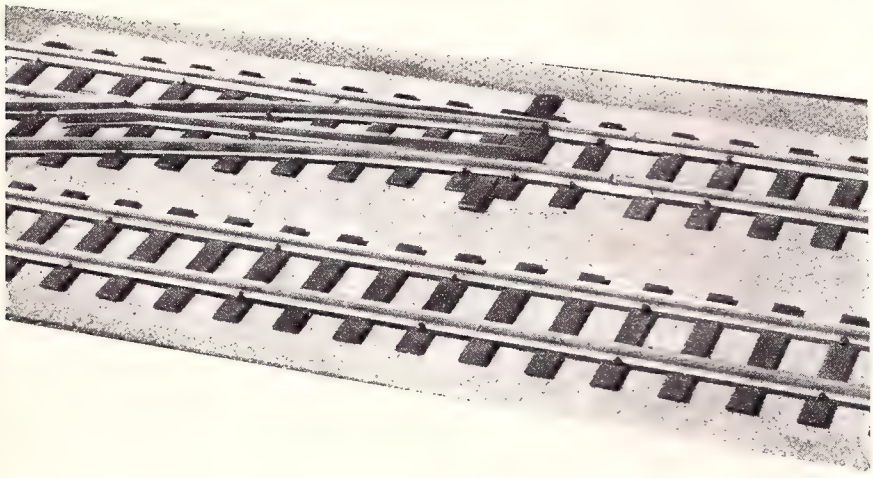
Thames Valley Model Railway Society

18—Visit to S.R. Signalling School at Clapham Junction.

TRADE WINDOW



A REVIEW OF NEW ITEMS SUBMITED FOR OUR INSPECTION BY MEMBERS OF THE TRADE



"OO" GAUGE BEATITRAK AND BEATIPOINTS

SOUTHGATE HOBBYSHOP

1 The Broadway, London, N.14

Track : 2-rail 4/-, 3-rail 5/6 per yard kit
Point kits : 2-rail 7/6, 3-rail 8/6

There is undoubtedly a demand for an easy-to-assemble coarse standard universal "OO" gauge track system, a demand which we feel certain will be met by Beatitrak. There are but three basic components: rail, spikes and sleeper bases. It is the latter which are the heart of this ingenious track system, for at one and the same time they ensure that the track is correctly gauged and eliminate the tedium of individually spacing out the sleepers.

The sleeper lengths are supplied in three-inch-long units, which are simply placed one after the other along the line of the track. For very sharp radius curves it will be necessary to cut the ties twice per length in order to align the sleepers correctly, but large sweeping curves can be accommodated by cutting once only in the centre. Track is supplied in kits consisting of rails, sleeper bases and spikes to make one yard ; the point kits contain a shaped sleeper base, a correctly machined set of rails, tie-bars and the necessary fixing spikes.

Assembly of the plain track is simplicity itself. The sleeper units are positioned on the softboard base, the rail is laid in place upon them and the spikes are inserted through the pre-punched holes. That is all! The points are a little more complex in that a correct order of assembly must be followed, otherwise it will prove impossible to fix the tie-bar. No soldering is required and the assembly takes little time, the only tools needed being a sharp knife and a small pair of pliers.

To complete the track system there are Beatikork ballast underlay at 1/6 a sheet and rail joiners at 1/11 per packet of 24. Our illustration shows track laid on Beatikork ballast.

This track system is so simple and straightforward that we have no hesitation whatever in recommending it to readers requiring a coarse-scale universal "OO" gauge track, for even a complete novice cannot go wrong as long as he follows the simple instructions printed on the packet. Indeed, we will go so far as to say that it would require a great deal of deliberate ingenuity to lay Beatitrak other than to gauge ! There is, however, one important point. In common with all spiked tracks it is essential to lay Beatitrak on a softboard base in order to gain the full advantages of speed and accuracy, but since softboard is in any case the best and cheapest material for baseboards this is no disadvantage.

HOBBY TOPICS

By S. N. BEATTIE

A happy new year to members of the Southgate Hobby Club and all readers who use our service. Each month this column will be devoted to our activities.

TTR SERVICE

Our specialized service is still available to TTR users all over the world.

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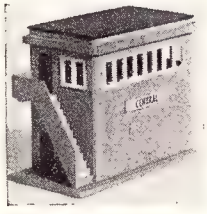

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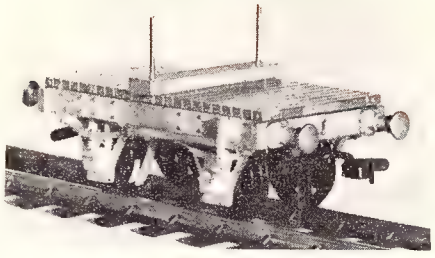


"OO" GAUGE MATCH TRUCK

ROBERT WILLS

92 Brighton Road, Coulsdon, Surrey

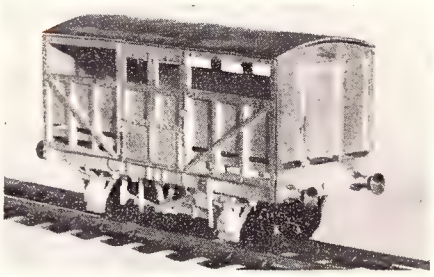
6/11 less wheels and couplings

The second kit from Bob Wills is a really versatile piece of goods rolling stock. As sold it is simply a flat match truck, but the addition of a bolster (1/2) rapidly converts it into a bolster wagon. Two such wagons coupled together will take the attractive detailed plate girder (4/11) available as a separate load, so designed that it will negotiate the sharpest of model curves without difficulty.

The vehicle is fitted with authentic one-sided brakes, and thus a further use is as a chassis for old open wagons, either for a period line or in a ballast train or private siding on a more modern system.

A set of ingenious webs cast on the underside of the floor take the standard Peco-Simplex auto-coupler bracket, still permitting a standard three-link coupling to be fitted. It is thus possible to use a Wills match truck to couple vehicles fitted with both types of coupling to form a train, a task for which a match truck is undeniably fitted.

The wagon is easy to assemble, and can be painted to suit any company.



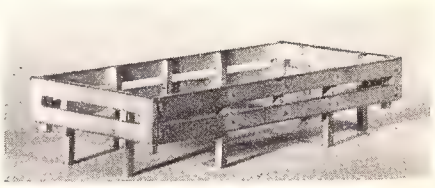
"OO" L.M.S. CATTLE TRUCK

K's

197 Uxbridge Road, London, W.12

8/3 less wheels and couplings

The K's cattle truck maintains the standard of its predecessors—indeed, the detail is even finer, for one can read the lettering on the works plate on the solebar! As usual, assembly is quite straightforward and is effected with Pafra or similar adhesive. No wheels, couplings or floor are supplied with the kit, the builder supplying his own. As the absence of a floor makes the fitting of the Peco-Simplex coupler something of a difficulty, the manufacturers have now introduced a simple fitting, price 9d. a pair, so that those who wish to use this coupling can do so without fitting a floor.



WAGON EXTENSION BOARDS

ROBERT WILLS

92 Brighton Road, Coulsdon, Surrey

2/11 complete

Our illustration shows the wagon extension boards supplied unpainted by Robert Wills for fitting into any standard open wagon to raise its height when carrying a light load such as coke. The boards will fit snugly into any standard wagon and serve to break up the height of a goods train very effectively.

RECEIVED FOR REVIEW

The undermentioned products have been received for review at the time of going to press. Full details and illustrations will appear as soon as possible.

Beatiplast (Southgate Hobbyshop). "O" wheels and track parts (Eames). "OO" locomotives (Eames). Coach kits (Exley). "OO" diesel shunter (Kirdon). "OO" loads (S. & B. Productions). "OO" S.R. brake vans (K's). "OO" buffer stop (G. & R. Wrenn).

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RECTIFIERS, brand new. 1 amp **10/-** each, 2½ amp **15/6,** 4 amp **25/-. TRANSFORMERS** to match. Post extra.

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L/2.	Oxygen cylinders. Black with bright caps. 12 in a packet	2/–
L/3.	Acetylene cylinders. Red oxide with bright caps. 12 in a packet	2/–
L/4.	Pre-cast concrete pipe sections, flanged, 3ft. dia., 4ft. long. Can be fitted together. 4 in a packet	2/–
L/5.	Aircraft salvage. Sections of wings as cut up by flame cutter	2/6

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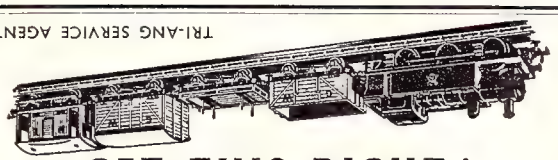

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Gem "Flexi-Trak," 3ft. lengths	4/9	6/3
Universal turnouts :		
2ft. radius, L.H. and R.H.	10/10	12/8
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36in.—24in. radius, L.H. and R.H. ...	13/3	15/–
Switch diamond crossings	14/5	16/9

Fishplates, per 3 dozen, **2/5**
Track spikes, per packet, **7½d.**

(Postage on track 2/- any quantity.)

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Tudor inn 22/6, unfinished 9/-. Group of 3 cottages 21/6, unfinished 7/2.
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"OO" 4mm. SCALE HIGHLAND CROFTERS' COTTAGES

	Finished	Unfinished
HC.1	9/6	4/6
HC.2	6/–	3/6
HC.3	7/11	4/3
HC.4	11/6	6/–
HC.5	6/–	3/6

New model :
CHURCH WITH TOWER
Overall length 9½in., width 4½in.
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CUTTRISS

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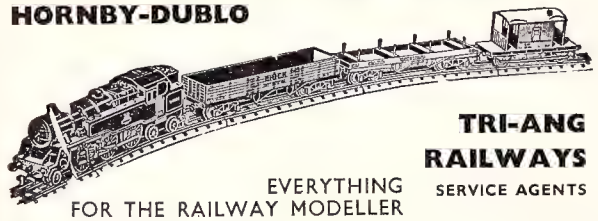

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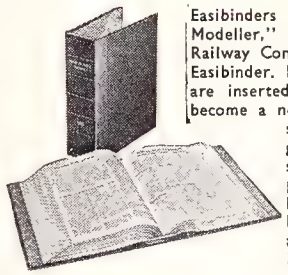

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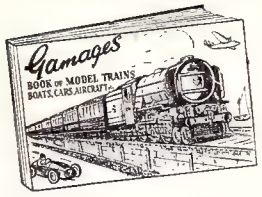

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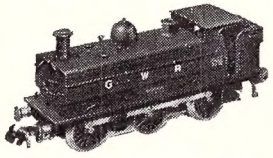

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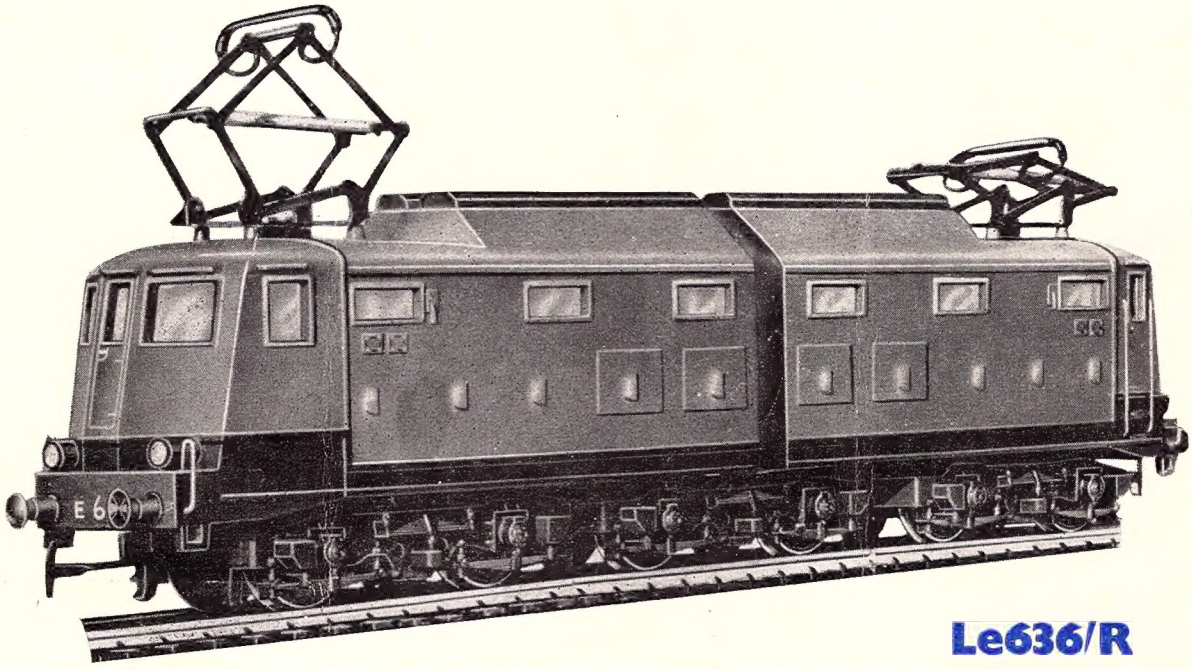

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